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PNEUMONIA—DIFFERENTIAL TYPING AND TREATMENT*

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Pneumonia is an acute infectious disease characterized by an inflammatory reaction in the lungs and is commonly differentiated both anatomically and clinically into lobar and broncho-pneumonia.

The management of this disease has always been a great problem. With the passing of time there has been some improvement in the management but science has never been able to conquer it. There is still a very large number of people who lose their lives every year as a result of it.

Although the diagnosis of pneumonia is made with certainty, only after examination of the lungs has revealed the physical signs characteristic of the disease, certain factors of the history are sufficiently distinctive to be of great value in suggesting the probability that pneumonia is present. The two most important aspects of the history bearing on diagnosis are the nature and severity of the predisposing causes and the character of the onset. The predisposing causes may be classified into two groups, namely, the acute infectious accompanied by inflammation of the upper respiratory tract, such as colds, influenza, measles, whooping cough, etc., and second, anesthesia, acute alcoholism, injury, post-dyphtheritic paralysis, etc.

The predisposing causes listed may be accompanied by any of the various bacterial or anatomical types of pneumonia, but there is usually a fairly definite relationship between the predisposing cause and the type of pneumonia which usually develops. Therefore, the clinical differentiation between the anatomical types is based on the nature of the predisposing causes, the character of the patient's symptoms, and the nature of the physical signs found by examination. Another factor which is becoming more important in the treatment of pneumonia is the determination of the causative organism. One group of organisms is ordinarily associated with lobar pneumonia and another with broncho-pneumonia, and the differential etiological diagnosis may be suggested by the characteristics of the predisposing factors, the physical signs, the X-ray, etc., but it can be definitely established only by bacteriological methods.

Very rapid progress has been made during the past few decades in the control of certain diseases, not only by prophylaxis but by treatment of the disease itself. This has been accomplished to a large extent by the development of specific serums. As in many other diseases, the specific organisms causing pneumonia have been isolated and specific serums have been produced. Because of the varied number of organisms causing pneumonia, and because horses respond to the different types of pneumococci differently, it has been impossible to produce a serum which will act specifically in all cases of pneumonia. It has been necessary to devise some means by which the organism can be isolated and typed in each individual case before the specific serum can be given with any hope for a favorable percentage of results. Until recently the method of typing has been a very complicated procedure, in that it required considerable time and a highly trained technician, and only a small per cent of the profession had access to laboratory facilities necessary for the typing. Therefore, the specific serum therapy has not been very practical for the whole profession,

Pneumonia has long been divided into four groups, namely, groups I, II, III and IV. These types were determined from pure cultures of the organisms by a process of agglutination with immune sera of

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types I, II and III. Group IV was named because certain of the encapsulated gram positive organisms did not agglutinate with any of the three sera. By this method of classification the incidence in which these cases occur as reported by certain authors is as follows: Voilhenberg, type I, 33.75 per cent; type II, 12.5 per cent; type III, 15 per cent; type IV, 38.75 per cent. Cecil, in 2000 cases, reported type I, 33.6 per cent; type II, 19.1 per cent; type III, 13.3 per cent; type IV, 33.1 per cent. Cole, in 700 cases, reported type I, 35 per cent; type II, 30 per cent; type III, 10 per cent; type IV, 25 per cent. Such factors as seasons, climate, age, local conditions, etc., enter into the variation of percentage by various authors. It is very evident that this method of grouping is incomplete since group IV is made to include all organisms which do not agglutinate with the sera of the first three groups.

A very enlightening article was published by Bullowa in the New York State Journal of Medicine of January 1, 1933, in which, with the aid of Georgia Cooper, of the Research Laboratory of the Public Health Department of New York, he presents an extensive study of the various types of the pneumococcus. As a result of their study they have isolated thirty-two types or organisms among 253 cases. By a more delicate method of typing new groups were divided from the old groups. For instance, group V was separated from group II, and group VIII was separated from group III. Most of the new groups were formed from group IV. This has also been presented by Park, Cooper, Edwards and Rosenstin. Bullowa has been unable to isolate these organisms and has succeeded in producing useful sera in fourteen types of organisms other than types I and III. He has gotten equally as good results from serum treatment of types VII and VIII as he obtained by serum treatment of type I. Sera for both of these groups can be obtained commercially.

This evidently is the reason why a specific serum has never been produced for group IV, and why the sera for groups II and III have not been as satisfactory as for group I. This makes complete typing and serum therapy of pneumonia even more complicated and difficult for the man who does not have access to a well equipped and modern laboratory. However, it is a step towards developing more specific sera and by developing a satisfactory method of typing which may be used generally, a larger number of cases of pneumonia may be treated with specific serum thus lowering the death rate due to this disease.

By checking the literature it is found that reports of large numbers of cases show that from forty to fifty per cent of all cases of pneumonia are type I and type II. It has been proven that in cases diagnosed early and accurately typed as types I and type II, very marked results are obtained by specific therapy. Bullowa reports a reduction in the death rate of approximately fifty per cent in 309 cases of group I cases taken on admission as compared with a similar number untreated. There was also a distinct reduction in the type II cases. Cecil reports a reduction of death rate from 30 per cent to 20 per cent in unselected cases of group I, and a further reduction to 11.7 per cent in cases treated under 72 hours. He further states that administration of serum to type II patients is followed in many cases by a disappearance of the organism from the blood stream and a general improvement of the patient. In still another article he reports that in a series of 252 unselected type II cases the death rate was 40.5 per cent in cases treated with serum, as compared with 45.8 per cent in the same number of untreated cases; also in a small series of early cases showed a death rate of 14.3 per cent, as compared with 65 per cent in a like number of controls. This series, however, was not large enough to be convincing, similar reports are made by other authors.

Such reports prove conclusively that serum therapy is effective, and since types I and II are the dominant types and are particularly amenable to treatment, serum therapy should certainly be practical if a practical method of typing is at hand.

Methods of typing have been developed so that anyone who is trained to read microscopic Widal and Kahn tests can type the pneumococcus with considerable accuracy and within a very short time.

In 1918 Krumwiede developed a method of typing the pneumococcus which surely is the most rapid method of typing. It is performed as follows: A centrifuge tube is filled with 5 to 10 cc. of

sputum and placed in boiling water for several minutes until a firm coagulum results. The latter is broken up with a pipette and, when necessary, one cc. of physiological saline is added to make 1 cc. of fluid. The tube is again shaken several times during the heating. The tube is centrifuged at high speed and .3 cc. of the supernatant fluid is layered over an equal amount of each undiluted type pneumococcus serum. If a ring of precipitate forms at the junction of the two fluids, the organism causing the infection is of the corresponding type. If no reaction occurs, plug the tube loosely without shaking and incubate at 45° C. Observe at the end of five minutes and again at the end of fifteen minutes. Then shake the tube gently and reincubate for no more than one hour. A positive reaction in this tube is detected by a definite clouding of the antigen-antibody mixture. A positive reaction by this method is conclusive proof of the type, and specific serum therapy can be instituted. This test requires from thirty minutes to one and one-half hours.

If a negative or questionable reaction is obtained, it should then be checked by the Sabin method. This is done by washing and emulsifying a small portion of sputum in physiological salt solution. From 0.1 cc. to 1.0 cc. of saline mixture is then injected into the peritoneal cavity of a mouse. Three or four hours later a small portion of the peritoneal fluid is obtained by capillary puncture. A glass slide is marked off into equal parts and a minute drop of the peritoneal fluid is placed in each portion. The first is mixed with a saline and is used as a control, the others are mixed with a loopful of a 1-10 dilution of each type of anti-pneumococcic serum. These are thoroughly mixed and allowed to dry. They are then stained for one-half minute with a basic fuchsin stain. These smears are then examined by oil emersion lense. If a specific agglutination reaction occurs with the diagnostic serum, the organism is of the corresponding type. This test ordinarily requires from four to five hours.

If neither the Krumwiede nor the Sabin method gives a positive reaction, the original mouse method of tube agglutination and precipitation can be performed in full. This method is generally accepted as an accurate method of typing, but it requires several hours for completion. It is a less practical method for the general technician to perform, and time prohibits a full discussion of it.

In comparing the two given methods with the mouse method, we find them a little less accurate, but the percentage of error is small enough that they are practical. Kahn, in an article in the Journal of the American Medical Association, 1925, refers to a series by Krumwiede in which twenty-five cases were tested. There was agglutination in nineteen cases by the mouse method, and fifteen cases, or 79 per cent, by Krumwiede's method. He also reports a series of twenty-one cases of which eight were group IV. Of the remaining thirteen, eleven, or 84.6 per cent, were correctly typed by the direct method and checked by the mouse method. Sabin reports over a hundred cases checked by his method, against the older method, with almost perfect results. This is further brought out by later work, and Cecil, Park, Felton and others, who report similar comparisons.

It is not necessary to say more about the advisability of using specific serums in this condition. It is very evident that marked benefit is obtained from it and, as in all other conditions where specific sera are used, the time element is a big factor. Due to the rapidity with which those tests can be made, the relatively high percentage of accuracy, and the simplicity of their technique, it is to be hoped that more effort will be made on the part of the physician to give the pneumonia patient the benefit of accurate specific serum therapy whenever possible.

As in the treatment of any other disease by specific therapy, the cost of the serum is a big factor, and in a large number of cases is prohibitive. It is to be hoped that the serum can be produced for a price which will make it more easily obtainable. With this, and with the development of the practical methods of typing of the pneumococcus, much can be done towards lowering the death rate of this dreaded disease.

NON-SPECIFIC PROTEIN THERAPY.

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TULSA.

Clinicians observed that disease was affected favorably by intercurrent infections. This observation led to the use of various vaccines, autogenous and stock. These were found wanting; they produced such variable results that the consensus of opinion was that there was very little to be gained by their use.

Tetanus antitoxin came into general use. Observers noted that the incidence of ophthalmic complications was very materially reduced; this resulted in the use of diphtheria antitoxin and typhoid vaccines, endeavoring to produce a reaction, evidenced by a rise in temperature and leukocyte count.

Favorable results have been reported by a large number of opthalmologists on numerous eye diseases using varied agents to create the reaction. The antiserum of diphtheria, typhoid-paratyphoid vaccines, and the inoculation with malaria are outstanding.

The varied agents used caused investigators to experiment with other agents. Out of these experiments has developed a group of symptoms that are known as foreign protein shock, elevation of temperature, leukocytosis, the mononuclear cells predominating, malaise and pain in varied parts of the body, the intensity of these symptoms being governed by the quantity and type of the agent.

Peterson has shown that foreign protein shock sets free a number of tissue ferments which break up bacteria and render their toxins less toxic. There is an increase in cell permeability allowing antibodies to penetrate the cells from the blood stream, thereby increasing the body's defensive mechanism to the maximum. Von Szily demonstrated that foreign protein injections produced an active inflammatory process in the ocular structures, the uvveal tract, showing an active hyperemia and infiltration with lympocytes.

Non-specific protein therapy is divided into two classes: First, prepared proteins, which produce a reaction without causing a rise of temperature. Of these, omnadin, aolin and lactigen are better standardized and more commonly used. The second class produces an elevation of temperature, as well as stimulating the other protective forces of the body. Whole milk is the most effective and accessible. Autoserum will produce very satisfactory results. Five to ten cc. of blood removed from a patient's vein and immediately reinjected intramuscularly, the reaction is usually not so great and the results are claimed by some clinicians to be superior to other forms of foreign protein agents. Friund claims that the reaction of this type of injection is due to split products in the blood, which, when reinjected, act as mild toxins, producing the same reaction in the eye as that demonstrated by Von Szily, which results from the injection of any foreign protein. Typhoid-paratyphoid vaccine, injected into the vein, gives us a standard agent with which we can produce a definite reaction of almost the desired degree, therefore it is of value in sympathetic ophthalmia and retro-bulbar neuritis.

Non-specific protein therapy has been used extensively with varied reports of its efficacy, but so far as I know, no serious objections have been raised against its use, therefore it can be considered a possible aid in combating disease. This form of treatment, when used as an adjunct to other procedures, has seemed to be of value. Its application and use, in the varied eye diseases, has been described by many observers. From such reports I have endeavored to utilize it, and believe it has been of value in a large per cent of cases treated.

The use of non-specific protein therapy in eye disease is varied and should be adapted to the individual case. Its routine use will be disappointing and is an unnecessary procedure.

This form of therapy is of value in the focal infection group of eye diseases. It should not be used until all foci of infection have been removed and the local condition has been treated by routine measures, both local and systemic. When routine treatment fails to give the desired results, the administration of a non-specific protein will increase the body resistance and will materially affect the progress of the disease, making it possible to effect a cure, and decreasing the loss of vision. Iritis, uveitis and ulcerative keratitis are distinctly benefited, the symptoms are less severe and their course is materially shortened, thereby limiting their complications and sequela to a min-

imum. Exudative retinitis and choroiditis, as well as vitreous opacities seem to show distinct improvement when given this form of therapy.

This type of disease responds to the non-fever producing group of proteins, of which I prefer to use omnadin or aolin. These produce no symptoms, and there are no contra-indications to their use. Omnadin can be given 2 cc. intra-muscularly each day for an indefinite period of time. Aolin produces more local reaction, but is equally as efficacious when given in 4 cc. intra-muscular injections on alternate days. Whole blood in 3 cc. doses seems to give approximately the same results, and I have not seen any objections to its use in the fifteen cases treated. An average of eight injections were given on alternate days. Larger doses create too much local reaction and do not seem to be more effective in this type of disease.

The most spectacular results are obtained in gonorrheal ophthalmia. The use of whole milk has removed most of the danger from this dreaded disease. When seen early, or within thirty hours of its onset, the results are far superior to any other type of treatment. The whole milk is boiled for four minutes. As soon as it is cooled, 10 cc. are injected in the gluteal region. It should be repeated every other day until four injections have been given. The reactions are usually very severe and cause the patient considerable pain. The first twelve hours following the injection the pain can be controlled with ten grains of aspirin every four hours. I have never had sufficient nerve to discontinue local treatment of the infected eye, but I believe that the reaction from the milk injection should have the credit for the cure effected. Before using milk most of my cases developed a corneal ulcer, and very few of them retained any vision of value. Since I have been using whole milk, by this method I have treated nine cases with no ulceration of the cornea or loss of vision.

Ophthalmia neonitorium, when seen before there is breaking down of the cornea, does not, in my opinion, require milk injections. However, some clinicians state that the doctor who does not use it would be liable to, and should be, criminally prosecuted. In giving it to an infant it should be given in 2 cc. doses every other day for four doses. Whole milk protein shock is valuable in post cataract extraction. When the eye is inflamed and painful, it seems to give very good results. I have used it in two cases of pan-ophthalmitis following perforating injuries. In both cases the pain and swelling were very much decreased, and the period of hospitalization was reduced about fifty per cent. If the results in pan-ophthalmitis are what they seem to be, the early use of this form of therapy in infections, following eye surgery, should save many eyes that would otherwise be lost.

My experience with typhoid-paratyphoid vaccines has been limited to three cases—two cases of retrobulbar neuritis, and one, pneumococic ulcer of the cornea, The vaccine was given intravenously. The reaction was quite definite and seemed to be of distinct value. The dose administered in each case was 25,000,000 for the first and increasing the amount at each subsequent injection sufficiently to produce an elevation of temperature of at least two and one-half degrees. Most cases require approximately a 15,000,000 increase at each dose. The vaccine should be repeated as the temperature returns to normal. These cases must be kept in bed and on a very restricted diet, keeping in mind the patient's general condition and continuing the treatment as long as there seems to be a favorable reaction in diseased area.

In conclusion, non-specific protein therapy raises body resistance and produces a definite reaction in the eye.

This type of therapy seems to be of value in focal eye disease.

The action of all substances enumerated is essentially the same.

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THE PRESENT STATUS OF THE VITAMINS.*

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The discovery of vitamins and their importance to mankind is a subject that has not been universally recognized and accepted by the medical profession in general, and this is not surprising in view of the fact that it has only been a few years since vitamins were first discovered, and much of the experimental and research work demonstrating the importance of these vital substances has been carried on in the laboratories in recent years. Then, when we realize that vitamins are something that nobody has ever seen, no microscope ever revealed, and that may never be seen or revealed, it is not surprising to find a great many members of the medical profession who are rather hesitant in accepting this recently acquired knowledge.

If it is true that some of the diseases of infancy and childhood, as well as adult individuals, owe their origin to vitamin deficiency; if it is true that normal physical growth and development in early life is influenced by vitamin activity; if it is true that anorexia in the weak anemic and mal-nourished child is improved and a steady gain in weight follows administration of a rich vitamin diet; and if it is true that human constitutions show a difference in their vitamin requirement and in their vitamin reserve, then, surely, every physician should be interested in vitaminology and its progress.

The history of the discovery and development of vitamins is as fascinating as any romance. Until the Russo-Japanese war, everyone thought Beri-Beri was a disease caused by some undiscovered bacillus. For centuries this "Scourge of the East" was prevalent in Japan, China, and the Pacific Isles. All that was known concerning this disease was that it was most common among the poor, who lived on rice and fish, and the death rate increased markedly after floods or droughts had destroyed the vegetable crops. The disease swept thru the army and navy of Japan and Russia, threatening annihilation, and the authorities were panic-stricken in their search for a preventive. Finally, someone recalled how Eijkman, a Dutch scientist, in 1897 discovered, accidently, that pigeons, fed upon polished rice, developed an illness resembling Beri-Beri, and that this condition could be cured by feeding the whole grain. So the order was given to serve whole, instead of polished, rice to the soldiers, and Beri-Beri promptly disappeared. Thus we see it was thru the outer covering of the rice grains, which science calls the pericarp, that vitamins became known. It would be extremely interesting to trace thru animal experimentation the development of this newer knowledge, and show how science has proven its theories about the vitamins, especially since so much of it has been done in this country, but it is a long story, and time will not permit.

There is no longer any ground for doubt concerning the place and importance of vitamins in matters of health, growth, and physical development. This subject has stood the test of twenty swift-moving years of actual experimentation, and in this time much information has been obtained concerning the nature and importance of vitamins, until today the vitamin situation is no longer considered just a theory, but is recognized by the leading research men, and the outstanding men in the field of nutrition, as one of the real discoveries of modern scientific medicine.

Prior to the beginning of the present century, the nutritional needs were expressed in terms of the now known food elements without any regard to the vitamin content of these foods. It was universally agreed that the maintenance of life, and the proper growth and development, depended primarily on the proper proportion in the diet of fats, carbohydrates, proteins, mineral salts and water. Scientists believed they had ascertained what each of these contributed to the needs of the body, and that by giving the proper proportions of each a perfect nutritional state could be attained. The only thing wrong with this theory was that it wouldn't work. Nutritional disease didn't diminish under this regime, and the most carefully balanced diets failed to produce the desired results. Men, women and children still ate and starved. Why? Merely because the so-called well-balanced diets did not include the all-important vital substances now known as vitamins.

While it was generally recognized at that time that there were certain well known diseases, such as scurvy, rickets, pellagra and Beri-Beri, that were due to a dietary deficiency and could be cured by

a proper change in the diet, definite knowledge as to the real cause of these diseases was lacking and not considered of real fundamental importance. It is in the laboratory in the last twenty years, thru animal experimentation, that the causes of these diseases have been proven to be due to a vitamin deficiency. These diseases have been produced in the experimental animal by the giving of a diet deficient in the necessary vitamin, and then the condition has been cured by the simple addition of that vitamin to the animal's diet.

A healthy, normal individual has quite a high vitamin reserve, this being a typical example of the way in which nature has provided for the "factor of safety," so that in an emergency in which the body is not getting sufficient vitamins from the food intake, nature falls back on this vitamin reserve to supply the vitamins during this period, and if this deficiency period extends over a long enough time the vitamin reserve will be exhausted, and then the patient will begin to show clinical evidences of one of the deficiency diseases.

A new-born babe is possessed with a vitamin reserve in case the mother has had a diet rich in vitamins during the gestation period, So, consequently, we do not commonly see evidences of a deficiency disease in the first few weeks of the baby's existence, since, regardless of whether or not the baby's diet contains an ample amount of vitamins, it requires some time to use up the reserve the ordinary baby acquired from its mother.

There are six definitely known vitamins.

Vitamin A, otherwise known as fat soluble A, the anti-ophthalmic and the anti-infective vitamin, was originally thought to be the growth-promoting vitamin, since without it, and with an otherwise adequate diet, experimental animals failed to grow normally. A deficient supply of this vitamin leads to weakening of the body tissues, and increased susceptibility to bacterial infection, particularly of the epithelial tissue. The most conspicuous is the condition of the eye, known as xerophthalmia. During the war there were serious outbreaks of this disease among the children in certain districts of Denmark. These people were exporting every possible pound of butter to the warring nations, and the children were receiving skimmed milk instead of whole milk. When sufficient butter fat and whole milk was given to these children, cures were effected, providing the disease had not advanced too far.

Not only may the eyes be diseased, but further investigations show that a lack of this vitamin may result in pus infections of the nasal sinuses, ears, mastoid, lungs, bladder and skin. The lack of the vitamin does not cause these infections, but so reduces the resistance of the body that the germs gain a ready entrance and do their harmful work.

This vitamin is so widely distributed in our common foods, and apparently so little is needed, that the grosser manifestations of its absence are seldom seen in this country. Human xerophthalmia is a very rare condition in this country, although in Japan over 1400 cases were reported in two years' time. This vitamin is found in great abundance in cod liver oil, other fish oils, butter fats, therefore in milk, cream and butter, egg yolk, vegetables, liver and kidneys.

Vitamin B, formerly known as the water soluble B, or growth-promoting vitamin, is now known as the vitamin B complex. Now it is believed that this vitamin B complex is made up of at least two independent vitamins.

One of these, known as B-1, or vitamin F, is the anti-neuritic vitamin, and is fairly easily destroyed by heat. The other, B-2, or vitamin G, is more stable to heat and differs from it markedly in its physiological action. This vitamin B complex is essential for the maintenance of normal appetite, growth, and especially lactation and proper functioning of the digestive tract. And its absence from the diet results in a short time in the loss of appetite, rapid loss of weight, and death. The rapidity with which symptoms of vitamin B deficiency becomes apparent indicates that the body has only a limited capacity for storing this vitamin. Therefore the diet should contain an abundance of this vitamin at all times.

The B-1 vitamin, or the anti-neuritic vitamin, is essential for the prevention of polyneuritis in experimental animals, and possibly Beri-Beri in man. In no place in medicine are the results more spectacular than when the vitamin B extract is given to a far-advanced case of Beri-Beri. Babies, who were seemingly doomed to die, with general paralysis, struggling for

breath, and with markedly dilated hearts, improve visibly from hour to hour, and within a few hours are out of all danger, by the hourly oral administration of this vitamin. As a result of the discovery of the cause and treatment of this condition, the mortality in the Philippines has been reduced from 49 to 18 per cent, a 31 per cent decrease.

The B-2 vitamin, sometimes called the anti-pellagra vitamin, is so closely associated with the anti-neuritic vitamin that for many years its independent existence escaped observation, A deficiency of this vitamin in the diet of rats is followed by a retardation in growth, a loss of appetite, and a loss in weight. These rats become weak, drowsy, and lethargic, instead of becoming nervous and irritable, as in the case of a vitamin B-1 deficiency.

On account of these rats developing pellagrous symptoms and lesions, and the fact that substances relatively rich in this vitamin are effective in the prevention and cure of pellagra, many investigators are of the opinion that pellagra is a deficiency disease caused by the lack of this vitamin B-2.

Spectacular results can be obtained by feeding these pellagra patients liver, liver extract, brewers' yeast, or any substance containing large amounts of this vitamin. These patients can be clinically cured and remain perfectly well as long as these foods containing sufficient amount of B-2 are included in the patient's diet. Vitamin B complex is widely distributed in ample amounts in our common articles of diet, being found in the leafy vegetables, eggs, milk, and whole grains, such as wheat, oats, barley, rye and rice; and in liver, kidneys and brewers' yeast.

Vitamin C, or the anti-scorbutic vitamin, has received much attention in this country, and its absence or deficiency is the direct cause of scurvy. In the earlier times scurvy was very common among the sailors, soldiers and prisoners, since they were subjected to simple, monotonous diets, consisting of dry cooked or stale foods. But today human scurvy is almost unknown beyond the period of infancy, and it rarely occurs in the breast-fed infant, and when it does one can safely assume the mother's diet has been very deficient in vitamin C-containing foods. We must always be on the lookout for the sub-acute cases of scurvy, which probably result from a relative insufficiency of this vitamin. These children are very irritable and restless, do not grow normally, lack stamina, have faulty dental development, and have a very much lessened resistance to all infectious diseases. Orange juice works wonders in these cases, and of course should be universally given to all babies.

Vitamin C is the most unstable of all known vitamins, being readily destroyed by heating in neutral or alkaline solutions, by ageing, oxidation, and the drying of foods containing it. Vitamin C resists cooking and canning processes, particularly if air is excluded. Therefore, properly canned fruits, vegetables and tomato juice contain practically as much of the vitamin as the fresh products. Experimental work has shown that the longer time and higher temperature used in commercial canning where the cooking is done in closed containers which exclude the air, results in less destruction of the vitamin than ordinary home cooking methods.

As the capacity of the body to store vitamin C is very limited and as there is an individual factor in the susceptibility to scurvy, would make it an almost positive indication that all babies, both artificial and breast-fed, should be protected by orange juice after the first month of life.

Vitamin C occurs most abundantly in all citrus fruits, oranges, lemons, grapefruit and in tomatoes, cabbage, spinach, milk and liver.

Vitamin D, or the anti-rachitic vitamin, has the property of promoting the assimilation of calcium and phosphorus, and as rickets is primarily due to a deficiency or wrong proportion of these substances, the role of vitamin D in rickets is to enable the body to use effectively its supply of these elements resulting in the formation of good bones and teeth. The intake of calcium and phosphorus may be ample in the infant's diet, and yet the infant is unable to absorb and assimilate these elements if there is a vitamin D deficiency, thus resulting in the bone pathology that occurs in rickets.

When one realizes that from forty to eighty-five per cent of the American children, at some time in infancy or childhood, are victims in some degree of severity of this serious disease, the discovery

of vitamin D, and its relationship to rickets, marks a new era in human nutrition and in preventive medicine.

Vitamin D is found chiefly in cod liver oil, egg yolk, whole milk and in the green vegetables, especially spinach. Vitamin D occupies the unique position among the vitamins of being the only one that can be synthesized or manufactured from a definite chemical compound. Numerous commercial preparations are now on the market, none of which can be a satisfactory substitute for cod liver oil. When the human skin is exposed to the sun's ray, or the ultra-violet ray, the cholesterol in the skin is affected by the ray and is believed to result in the formation of vitamin D.

Vitamin E, or the anti-sterility vitamin, is essential for reproduction. All the experiments conducted so far have been upon laboratory animals, sterility produced by a restricted diet devoid of vitamin E, and this condition cured by adding vitamin E-containing foods to the diet. In the absence of vitamin E ovulation takes place, but there is a failure of placental function, with death and resorption of the fetus.

This vitamin is found most abundantly in the wheat embryo, but occurs in whole wheat, rolled oats, lettuce, lean meat and to a lesser extent in milk. It is, however, so widely distributed in nature, and apparently so little is needed, that its lack is seldom felt under ordinary nutritional conditions.

Ever since the discovery of vitamins scientists and dietitians have noted a loss of appetite associated with all the cases in which there was any marked degree of vitamin deficiency, and it has been clearly demonstrated in recent years by numerous investigators that these invisible protective substances actually are important factors in the producing of a real appetite.

Animals fed upon a diet deficient in vitamins invariably suffer a loss of appetite, often times to the point of absolute refusal of food, and yet as soon as a high vitamin content is added to the daily allowance of food, the appetite begins to return, soon becomes normal and remains as long as the vitamins are given in sufficient quantity.

A federal children's bureau of the Department of Labor recently stated that 5,000,000 American children, rich and poor, are suffering from mal-nutrition and loss of appetite, not so much from under feeding, as is commonly thought, but of wrong feeding. Of these 5,000,000 boys and girls probably 4,000,000 could be saved from this curse without one cent more being spent on them than is now spent. Health and good nutrition in 95 per cent of these cases is not a question of climate or medicine prescribed by the doctor, but of careful supervision by a trained physician who is capable of advising the right type of pure food, which contains a sufficient amount of vitamins to meet the requirements of a growing, constantly energy-consuming child.

Much can be accomplished in all these mal-nourished children if a diet with sufficient vitamins is prescribed for the child, and the writer has yet to see the first case in which the giving of a diet rich in vitamins has failed to show an improvement in the appetite and a gain in weight in the mal-nourished child. This recently-acquired knowledge is something that can't be emphasized too much in the face of conditions existing at the present time, and the generalized practical application of this will go a long way in preventing and eliminating the thin anemic and undernourished child from our children of tomorrow.

In conclusion, the amount of the different vitamins necessary to afford ample protection in the human is a little uncertain, but apparently is rather small, and the individual factor may have more importance than we now think. It is not necessary to bar any of the foods from the diet, such as the milled flours, polished rice, meat, potatoes, and canned goods, or any of the highly refined foods, as was formerly thought, but the secret of success in nutrition lies in eating more of the protective foods, such as milk, fresh fruits and the leafy vegetables, and as long as these are included in abundance we may then satisfy our appetites with these so-called incomplete foods and suffer no ill-effects, This system of diet, which is a rather simple one and involves no great self-denial on the part of the patient, will go a long way towards improving the physical condition of our

youth, and eliminating these so-called deficiency diseases.

415 Medical Arts Bldg.

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ADENOMATOSIS COLI AND CARCINOMA OF THE COLON: REPORT OF CASE ILLUSTRATING MULTICENTRIC MALIGNANCY

Joseph Felsen and Joseph J. Wells, New York (Journal A. M. A., March 3, 1934), point out certain pertinent observations to the development of multiple primary malignant tumors of the large intestine on the basis of adenomatous polyps. They make no attempt to dispute the validity of Billroth's strict criteria with regard to multiple primary malignant tumors. It appears to be quite generally conceded that the simultaneous and independent development of carcinomas from two or more adenomatous polyps of the colon or rectum does occur. The case that they cite is particularly instructive in that a benign adenomatous polyp and two stages in the development of a malignant growth from such a polyp are clearly shown. Accumulated data point to an underlying tendency to neoplasia in adenomatosis coli. Because of the high incidence of malignant degeneration in adenomatous polyps, their removal at an early stage is important. When removal is impossible because of their number, careful periodic examinations by means of the contrast enema and sigmoidoscope are indicated. When malignant conditions supervene, local resection results in a high proportion of cures.

OUTBREAK OF AMEBIASIS IN CHICAGO DURING 1933: SEQUENCE OF EVENTS

Because of the many conflicting statements regarding the recent outbreak of amebiasis in Chicago, Herman N. Bundesen, Fred O. Tonney and I. D. Rawlings, Chicago (Journal A. M. A., Feb. 3, 1934), take this occasion to cite briefly the sequence of events as they occurred, beginning with the report to the board of health on August 16 of two cases of amebic dysentery that were observed in two different hospitals of the city and ending with the investigation of the physical plant of one of the hotels on January 3, at which time the chief engineer of the hotel revealed that on July 2 two sewer pipes had broken under the ice storage room, permitting sewage to flood areas where food and ice were stored, prepared and handled, and also where 345 food handlers worked, many of whom ate their meals in the basement in the quarters which were flooded. Realizing the peculiar circumstances concerned in this outbreak and the widespread interest of public health officers, the board of health is endeavoring to prepare a complete and detailed report of all phases of the epidemic which will, when ready, be made generally available.

RELIEF OF PROSTATIC HYPERTROPHY AND BLADDER NECK RESECTION BY THE TRANSURETHRAL METHOD.

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Prostatic resection is the removal, by instruments passed through the urethra, of the obstructing portion of the prostate gland. This is carried out either by the improved cautery punch method, or by electrically controlled loops, which remove obstructing tissue under direct vision, and without resorting to the open operation.

Man has been a sufferer from prostatic enlargement since the dawn of history, and various methods for relief have been used down through the years. The tragedy of man is, that he so often reaches the prostatic hypertrophic age when he is in the most active and useful stage of his life; the time when he is in a position to instruct, devise, and impart the knowledge which he has accumulated. But when this obstruction, with its attendant pain, retention, absorption, and discomfort begins, he loses his vigor, his grip, his mental force, with a general letting down, and many useful years destroyed.

Until within the last few years, it was considered that prostatic hypertrophy could only be relieved by the open operation, such as the suprapubic or perineal prostatectomy. Also, until a fairly recent date the removal of the prostate was considered one of the most difficult and dangerous operations in the field of surgery.

Within the last twenty-five years many ingenious instruments, used directly or indirectly with the cystoscope, have been devised, by which the intra-urethral and intra-vesicle, prostatic enlargement or obstruction can be visualized, diagnosed, successfully removed.

Dr. Hugh Young, back in 1909, developed what is known as his punch instrument, which, so it is claimed, was fairly successful in certain types of obstruction, but not generally used on account of the likelihood of hemorrhage and infection.

Dr. John Caulk, in 1920, developed a cautery punch for cautery resection of prostatic obstruction. He believes that a large portion of the obstructions are inflammatory hyperplasias, and not neo-

plasms. Therefore, it is not necessary to remove the gland completely, but remove the obstructing portion, followed by a certain amount of shrinkage.

Stern, in 1926, introduced his ingenious instrument which he called the "resectoscope," but for some cause he did not continue his research work to a successful or practical conclusion. Shortly thereafter, though, Dr. T. M. Davis of Greenville, South Carolina, became interested and began using this instrument, but added numerous improvements, such as: A larger fenestra, cutting loop, improvements in the vision and lighting systems. He also added a coagulation current for the control of hemorrhage. So, to Dr. Davis, credit must be given for the advancement and information obtained in the transurethral method of treating the prostate and neck obstructions.

Credit is due, also, Dr. J. F. McCarthy for devising his ingenious visualizing instruments. At this time his instrument called the "resectotome," is fairly universally used.

There is no subject before the medical world today causing as much comment as the discussion of the relative merit of instrumental prostatectomy and other forms of vesicle neck obstruction. At this time there has been a sufficiently large number of cases reported and observed over a period of time, to permit one to make an estimate as to the relative merits of this method, as compared to the open operation. So, with the light of this information before me, I feel that at least 95 per cent of prostatic obstructions can be removed by the transurethral or instrumental method.

The question might be raised, "Will prostatectomy become obsolete, since the advent of the transurethral method?" I say "No," as there is no method that is one hundred per cent perfect. Then, too, there might be complications that would end in more difficulty, which might require either suprapubic or the perineal operative measures, but the percentage of use of the older method will be small, I think not over five per cent.

The most important factor of this method is, that it offers relief with very little attendant danger in the early stages of prostatism, especially to the younger man who would rather endure years of suffering than to undergo the old method of prostatic enucleation.

We should try to educate all men of prostatic age to seek early urological aid before serious pathological changes result. At the early age of prostatism, the time when the obstruction is small, the residual urine is slight, and there are no complications, resection of the prostate is attended with little danger.

My personal experience with transurethral resection dates back to 1922, at which time I began to use Caulk's cautery punch method for the removal of certain types of vesicle neck obstructions, but only in selected cases, such as the bar, the sclerotic middle lobe or the contracture. However, as I became more skilled, I gradually increased its use, so about the time of the advent of the resectoscope and resectotome, I was using it in about half of my prostatic cases.

Since acquiring the Davis-Bovie surgical unit, and the McCarthy's resectotome, I have used this method with increasing satisfaction. However, in some cases I find that better results are obtained from the use of the cautery punch, which has been improved by the addition of the vision and lighting system, enabling one to remove the obstruction with a direct view. For the successful treatment of all prostatic obstructions it is necessary to have as a part of one's equipment, both the cautery punch and the resectotome.

I find that the resectoscopic method is not without danger, and I want to stress a few which I encountered. One must be very cautious in its use, and have thorough knowledge of the anatomy of the parts to be treated, also of the bladder and other adnexa. At all times the cutting field must be free from blood, and in good view, with complete orientation, otherwise some grave damage will take place.

Preparation for this operation is just as essential as we make for prostatectomy by open method, such as: Blood pressure reading, cardiographic studies, attention to focal infection, blood chemistry, notation of improved clinical symptoms, together with the retained catheter for the continuous relief of urine.

Anesthetic: In a few of my cases I have used spinal anesthesia, but in the majority of cases I use the sacral-block, which I think is preferable. The amount used is about 35 cc. of two per cent solution

of novocain. No danger or serious consequences have resulted.

Danger: The greatest danger following this operation is hemorrhage. In one of my cases a secondary hemorrhage developed about four hours following the operation. It was so bad and the bladder became distended to the extent that I had to do a suprapubic cystotomy, and pack the cavity. However, the patient recovered. While this hemorrhage is very disagreeable, yet by early recognition it can be controlled, if seen before the bladder becomes filled with blood clots. Through the cystoscope the bleeding point can be coagulated under direct vision, and the hemorrhage checked. When the bladder has become distended, then as soon as recognized, suprapubic cystotomy should be performed and bleeding points checked.

Danger By Infection: This is a factor which can be avoided by proper preparation, as described above, but in addition I usually inject one-half ounce of two per cent mercurochrome into the bladder immediately following my operation, and this is repeated twice daily for four days. Also, the bladder washes should be used if troublesome clots are present.

I have had several minor complications, such as epididymitis, which is not dangerous, but unfortunate, as it prolongs and retards recovery.

In one other rather interesting case, while trying to control a small bleeder with the coagulating current, near the verumontanum a small fistula was made by the fulgerating point. This, however, healed and patient at this time is in good post-operative condition.

At this time I have performed one hundred and one transurethral resections. Of this number the cautery punch method was used in fifty-six cases, and the resectotome and resectoscope in forty-five. In a few of these I have had to make the second operation.

Summary: Prostatic resection has come to stay. Many improvements will be made, but this method will be practically universally adopted.

The laity has become fairly well informed on this method and the individual patient will readily choose it in preference to prostatectomy. So the urologist must be prepared to undertake this work.

There is no operation in the field of urology which offers greater relief to the sufferer, nor one which will incur a more everlasting gratitude from the patient who has been cured without undergoing the hazards of the old method of prostatectomy.

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DERMATOMYOSITIS: REPORT OF CASE

John C. McGarrahan, Cohoes, N. Y. (Journal A. M. A., March 3, 1934), relates the progress of a case of dermatomyositis with recovery. The outstanding features of the case are the preliminary influenzal type of cold, the low grade arthritis, the low grade febrile reaction, the eosinophilia, the inflammatory process in the muscles of the upper and lower extremities, the stiffening of the wrists, fingers and ankles with the involvement of the periarticular structures, the rash of slightly raised papules becoming confluent, the slow convalesence and the final difficulties due to scar contracture. The return of the percentage of eosinophilic cells to within normal limits in approximately four weeks after the inauguration of treatment with an autogenous vaccine from the probable focus of infection, together with the pronounced clinical improvement in the same period, suggests the possible value of this type of therapy in cases of dermatomyositis.

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PROCEDURES FOR TREATMENT OF MYELOGENOUS LEUKEMIA

According to U. V. Portmann, Cleveland (Journal A. M. A., Jan. 20, 1934), the technical factors governing the dosage of roentgen irradiation for myelogenous leukemia are relatively unimportant so long as the intensity of the rays is therapeutically effective in the region to which they are applied: Myelogenous leukemia is ultimately a generalized disease, progressively affecting certain regions of the body, and the order of the regions affected and the rate of progression vary in different persons. An abnormal white blood cell count is the result and not the cause of the disease and is significant only when physiologic processes of certain organs are not normal. In administering radiation, it is illogical to irradiate always and as a routine the whole or a single part of the body. Instead, an effort should be made to discover which vital functions are particularly affected in each patient so that treatment can be administered to the areas involved.

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CHRONIC RECURRENT DISLOCATION OF THE PATELLA

Wallace H. Cole and George A. Williamson, St. Paul (Journal A. M. A., Feb. 3, 1934), believe that in the chronic recurrent type of dislocation of the patella, a combination of operations may be necessary. The best method in their hands for reinforcing or tightening the relaxed structures on the medial side of the knee is a fascial transplantation. Straightening the line of pull of the exterior mechanism is best accomplished by the procedure described by Goldthwait or by one of its modifications. Raising the anterior surface of the lateral condyle of the femur is the best method for increasing the bony barrier against lateral displacement of the patella. The uses for this type of operation alone are more limited, but good results are obtained in properly selected cases.

CHRONIC GONORRHEA IN THE MALE.

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It can well be said that gonorrhea is one of the oldest, most prevalent, most treated and most mistreated diseases in existence. Its progress through the ages has left in its wake a blind, halt, maimed, sterile and sexless multitude. After a lapse of centuries, we are no nearer the solution of the cure than were our predecessors. About 95 per cent of gonorrhea is still being treated by the general practioner, who admits he knows nothing about it. Also, most of the urologists are only interested in the surgical treatment of the disease. It can well be said that gonorrhea is the "Step Child of Urology."

By the term, chronic gonorrhea, we usually mean an uncured case of gonococcal infection that has continued for a period of three to five months. However, this term is an arbitrary one and by no means accurate, as a chronic case may be interrupted by acute exacerbation. Most of our text books say the disease can be cured in four to six weeks. I have yet to see a case of posterior urethritis that has ended in complete restoration to normal condition in less than four to six months. I believe that in 95 per cent of cases the infection passes the cutoff muscle and invades the posterior urethra. The idea is prevalent among physicians that the compressor urethera muscle acts as a barrier to the disease. It does not.

Gonorrhea does not progress by surface extension alone. It is a surface disease for a short time only, for no sooner does it reach the edge of the epithelial cells than it burrows down into the submucosa and enters into the lymph channels, and some times with surprising rapidity. After reaching the posterior urethra it finds a favorable habitat in the forty or more urethral follicles and of the common ejaculatory ducts and may extend into the seminal vesicles and down through the vas deferens into the epididymus. Since the gonocci have abundant room in these glands to multiply, the clinical symptoms become manifest only, when the gland tubules become filled with bacteria and inflammatory exudate. We believe that the time required for the extension of the disease into these posterior structures is from two to three weeks.

There are still physicians who assert that gonorrhea is a purely local and self-limited disease, from which a patient may be expected to recover within a reasonable length of time, with or without treatment. It is true that many infectious diseases do subside in a given time without treatment, provided the patient possesses the requisite resisting powers, but if gonorrhea has ever subsided without treatment the literature which I have examined fails to reveal such a report. Ample evidence proves that it is not self-limited, and in chronic form may persist for many years. The organism remaining intrenched in impregnable anatomical situations, lying quiescent for an indefinite period to assume its original virulence at any time. Transmission of the disease has been known to occur many years after the patient has been pronounced clinically cured.

The symptoms of chronic gonorrhea are many and varied. The only one present may be the classical "morning drop," or there may be a train of symptoms extending from the urethral meatus to the kidney. They may be classified into three types, namely: sexual, urinary and sensory.

1. Sexual symptoms manifest themselves by:
    1. Premature ejaculations.
    2. Perineal pain.
    3. Prostatorrhoea.
    4. Impotence, partial or complete.

II. Urinary symptoms are:
    1. Painful, difficult urination, often with retarded stream.
    2. Finding in the urine of shreds, phosphates, pus and sometimes blood.
    3. The sensory symptoms are varied in character. Very often the chief complaint is a vague pain referred to a remote part of the body. A large number of men suffering from sensory phenomena visit the offices of physicians year after year, going from one doctor to another, receiving from each a fruitless, protracted

and usually painful course of treatment. Although excessive treament is harmful, these patients cannot be neglected.

Clinically, we divide this disease into the chronic anterior and the chronic posterior urethritis—a clear differentiation must be made in order to institute the proper treatment.

The diagnosis of chronic anterior urethritis is made by the usual findings of pus at the meatus, the two glass urine test revealing pus in the first but none in the second. There are no palpable abnormalities in the prostate or seminal vesicles and no pus found in the secretions expressed from these parts. A smear may or may not show the extra or intra-cellular gram negative diplococci but very often shows shreds of connective tissue and pus cells or other bacteria. Also, in every case a sound or olive tip bougie size 26-28 should be passed to the cutoff muscle to determine presence of stricture.

Chronic posterior urethritis and chronic prostitis can rarely be distinguished from each other; indeed, posterior urethritis is clincically synonymous with chronic follicular prostitis. Chronic inflammation of the seminal vesicles is always associated with chronic prostitis. These are the cases which show disturbances of urination, reflex pain, abnormal sensations and disturbances of the sexual function. We may get symptoms simulating renal colic, neuralgia of the testicle and cord, relapsing epididymitis or gonorrheal rheumatism. We may find pathological changes in the vera montanum, such as erosions, granulations, cysts, polyps, hypertrophy or simple congestion. Diagnosis is made by the two glass test, rectal palpation, urethroscopic and cysto-urethroscopic examination.

Chronic gonorrhea is the field for instrumental diagnosis and treatment. The two main objects in the treatment of this disease are to promote drainage and to increase the resistance of the patient.

I believe that many a urethritis fails to get well for lack of a meatotomy.

In doing a meatotomy, make an incision deep enough to cut the posterior meatus so it will comfortably admit a size 30 French sound. It will contract to a 28 or 29 in a short time, but this will leave ample room for free drainage. All strictures must be dilated beyond their capacity as they have a persistent tendency to contract. This is an outstanding characteristic of a true stricture and the patient should be warned that every new attack of gonnorhea may cause the old lesion to reappear or new ones to form.

Gentle dilation with the sound is done to cause the resorption of the infiltration of the mucosa and drainage of the glands and crypts. It also causes a mild hyperemia, a straightening out of the urethral canal with an emptying of the inflamed glands. The acute congestion produced must pass before the sound is introduced again. Injection of one-half of one per cent protargol or irrigation of 1-10,000 potassium permanganate solution should follow each dilation. The chief aim is to sooth and heal the mucosa. Local applications made under the eye through the cysto-urethroscope, whether they be electrical or chemical, constitute a very useful and successful therapy.

Massage of the prostate once or twice a week may be profitably begun as soon as the acute inflammation subsides. Recent observations have shown that the gonococci thrive in the spermatic fluid.

In addition to local therapy, we insist on abstinence from sexual indulgence and alcohol, advise removal of any foci of infection, such as teeth and tonsils, and encourage a liberal diet with proper elimination to increase bodily resistance.

SUMMARY.

1. A negative smear is not dependable.

2. Do a meatotomy at once if meatus is small.

3. All prostatic secretions should be examined under the microscope.

4. The cysto-urethroscope reveals lesions in the posterior urethra and is very necessary in treating them.

5. Relapsing epididymitis should be operated.

6. Vaccines and intravenous therapy rarely promote a cure.

7. The majority of cases will be cured by a systematic course of prostatic massage, followed by sounds of sufficient size to dilate the urethra with the least amount of trauma. Injections or irrigations of any mild antiseptic to sooth and heal the mucosa.

8. One must promote drainage and increase the physiological resistance of the patient before a cure is accomplished.

SUBPHRENIC ABSCESS FOLLOWING APPENDICEAL ABSCESS.—NATHER-OCHSNER METHOD OF DRAINAGE WITH A CASE REPORT.

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TULSA.

Since the day of Barlow and Leyden our store of knowledge concerning subphrenic infections has been richly enhanced. However, the high general mortality which still attends subdiaphragmatic abscess renders it a fit subject for continued study and discussion. As there have been numerous and, often, very complicated anatomical classifications of this region, it seems necessary to state that Nather's classification so comprehensively yet briefly given in Ochsner's[1] last paper on this subject has been adopted for the purpose of this paper. The subphrenic space—"that area located between the diaphragm above and the transverse mesocolon and the transverse colon below"—is composed of two main regions, the supra and infrahepatic. The suprahepatic is further divided into four parts, one extraperitoneal (between the layers of the coronary ligament) and three intraperitoneal. These are (1) the left suprahepatic (to the left of the falciform ligament); (2) right anterior suprahepatic (to the right of the falciform ligament and anterior to the right lateral ligament); (3) right posterior suprahepatic (to the right of the falciform ligament and posterior to the right lateral ligament). The infrahepatic space is composed of two spaces to the left of the round ligament and the ligament of the ductus venosus and one to the right. The posterior space to the left lies behind the gastrohepatic omentum and is really the lesser peritoneal cavity. The anterior lies in front of the lesser omentum. These spaces are known as the posterior and anterior left infrahepatic region, respectively.

Since this paper deals only with those abscesses following appendicitis, we are chiefly concerned with the right posterior suprahepatic space and the right infrahepatic space. While it is possible for an abscess to form in any of the subdiaphragmatic regions mentioned following appendicitis, particularly in cases where a general peritonitis has followed appendiceal inflammation, reported series of cases show an involvement of the regions mentioned almost to the exclusion of the others. The mode of spread of the infection may be along either side of the ascending colon by direct extension or through the retroperitoneal lymphatics. Again, an ascending cellulitis of the retroperitoneal tissues account for some cases, and in these the extra-peritoneal space is usually, if not always, involved; finally, in some instances, thrombophlebitis of the portal vessels occur with the development of liver abscess or abscesses, the rupturing of which produces subphrenic infection.

The most recently reported series of cases of subphrenic abscess in this country is that of Flynn[2] who, in 1932, compiled his data from a questionnaire sent members of the Southern Surgical Association. He gives appendicitis as the etiological factor in 54 per cent of cases—in a series of 346. Perry,[3] in 1927, reported a collection of 496 cases, in which the appendix was the source in 25.3 per cent. Fifield[4] and Love, in 1926, reported 35.7 per cent of their 84 cases as being the same origin. Whipple,[5] reviewing 1,000 cases in 1926, found 21 per cent of them having this source., It therefore, seems safe to say that at least 20 to 25 per cent of all cases follow appendicitis. The gastroduodenal region and the biliary passages share importance etiologically with the appendix. When we come to discuss the diagnosis, a chief reason for the appalling mortality is found, as it is at once evident that in the majority of instances the correct diagnosis is definitely made only late in the disease. There seems to be two principal causes of this delay: (1) Failure to consider the possibility of such infection; (2) a tendency to procrastinate until advanced signs and symptoms are present, confusion apparently being occasioned by chest findings and non-confirmatory x-ray findings.

"Pus somewhere, pus nowhere else, therefore, pus under the diaphragm." Fifield and Love offer this aphorism as a means of keeping the condition in mind. Like extra-uterine pregnancy, the diagnosis is usually not difficult, provided the possibility of the condition be considered. Diagnosis rests on (1) a consideration of the history; (2) pain and constitutional symptoms; (3) physical signs; (4) roentgenologic examination.

The history of an attack of appendicitis, or of an abnormal crisis that could

be interpreted as such within four months (occasionally even longer), should immediately rule in the possibility of subphrenic abscess. It goes without saying that a history of suppuration originating from an appendix, either drained or undrained, makes it necessary not merely to consider the possibility, but to definitely rule out the presence of a subphrenic infection when there is continued fever, leukocytosis and pain.

Fever of a septic type, even though slight, loss of weight and strength, pain in the upper right abdominal quadrant or in the right loin, or above the right supraclavicular region, demands that subphrenic abscess be considered. Pain along the right twelfth rib is common. Neck pain is considered rather diagnostic of suppuration near the central portion of the diaphragm, as brought out by the experimental work of Capps and Coleman, and exemplified in the case reported by Christopher.

On physical examination there is usually tenderness and increase of muscular tone, even to rigidity in the upper right quadrant or in the loin—particularly over the right twelfth rib when the right posterior suprahepatic space is involved. Pain about the right costal margin anteriorly usually indicates involvement of the right infrahepatic region. Bulging at any point is ordinarily only a late symptom and should not be expected. (Again one should not expect to find the classic area of tympany surmounting a dull region followed by dullness again above.) Only a minority of cases have this, and besides a gas-filled transverse colon may cause error. Depending on the amount of compression of the lower right lung lobe and upon the presence or absence of extension of the inflammatory process to the pleura and lung, the physical signs over the thorax vary. Most cases show some pleural exudate and it is common to find impairment of resonance, diminished breath sounds, and crepitant rales over the lower right lung posteriorly. In fact, the condition is most frequently confused with pleurisy, with effusion or empyema. In making the differentiation the history is usually invaluable.

Roentgenologic examination is exceedingly valuable, and when proper technique is employed is probably the most important single aid to diagnosis. Brown,[8] Pancoast,[7] Le Wald,[9] O'Brien,[9] Granger,[10] McNamee,[11] Hodges[11] and others have contributed in this field. From a study of their methods and recommendations the following principles seem established: (1) There should be a careful correlation of the history symptoms and physical signs with the x-ray findings. (2) Fluoroscopic examination is invaluable. (3) Both anterior-posterior and lateral views should be employed. (Granger advocates posterior-anterior view.) (4) Repeated examinations are indicated if any doubt exists. (5) The patient should be in the upright position if his condition permits—with present-day tables this is usually possible. With regard to the x-ray findings, early cases usually present more or less elevation of the diaphragm with limitation of its excursion. *It is not necessary that it be fixed.* Later, the diaphragm may become abnormally arched and irregular in its outline.

In emphasizing the necessity for lateral views, Brown has pointed out the anatomical fact that the posterior attachment of the diaphragm is on a lower level than the anterior, and that the right posterior attachment is lower than the left. Since the right posterior suprahepatic region is the one most often involved, a lateral view is necessary, as early cases of infection in this region might otherwise escape recognition. A minority of cases show the classic findings of a gas bubble above a fluid level, both beneath the diaphragm.

The moot question of aspiration is now reached. This was purposely not included under methods of diagnosis because it seems that most recent writers agree that needling is not only unsafe, but not particularly valuable. Ochsner[7] declares that it is justifiable to aspirate the pleural cavity in order to determine the character of exudate present, but aspiration of a suspected subdiaphragmatic abscess should be done only in the operating room with everything in readiness for surgical drainage, and then every precaution against entering the pleural or peritoneal cavities should be taken. To this latter end, he advocates introduction of the aspirating needle at the level of the spinous process of the first lumbar vertebra in the posterior axillary line—the needle being directed upward at an angle of 45 degrees to the skin below its hub. Lockwood[11], Russell, Hodges, Grove, in addition to Ochsner, condemn aspiration. Russell declares, "I have never been able to see any more reason for aspirating a suspected

subphrenic abscess than for aspirating a suspected pelvis or appendiceal abscess, the practice of which has been abandoned for the last forty years." However, Ulman and Levy," and later Allen and Douglas," consider the procedure justified. In view of the fact that the pus is often so thick it cannot be successfully aspirated, and again, the extreme difficulty often experienced in locating the pus collection —(Ochsner quotes Hirsch's case in which pus was found only on the twenty-fourth attempt), it seems that the possible advantages are far outweighed by the dangers which are obvious. Since the development of roentgenologic technique to its present point so that not only the presence of the abscess but its probable exact location can be determined, there seems to be no place for the method except during the actual course of operation.

Upon the question of the principle of treatment, once an abscess has developed, all are agreed surgical drainage is absolutely indicated. It is not necessary to give statistics here, as they are too well known, and there is no room for argument. However, the method of application of the principle involves much discussion which cannot be entered upon. All recognized procedures fall into four groups: (1) The transperitoneal. (2) Transpleural. (3) Subpleural. (4) Extraperitoneal. The disadvantages of the methods falling into the first two groups are inherent and obvious, in that through them the two great serous cavities are exposed to the danger of infection. The procedures in the third group are modifications of the retroperitoneal operation of Nather and Ochsner and apparently enjoy no advantages over it while presenting several disadvantages. Graf" is the author of the subpleural modification, while Elkin", using the incision and rib-resection of Nather-Ochsner obliterated the costo-phrenic angle and drained through it. A brief discussion of the relative merits of these modifications is given in Ochsner's article in International Clinics for June, 1931. The fourth group contains the extraperitoneal operation devised by Clairmont which is an excellent method for those cases in which the right anterior and left suprahepatic spaces are involved. In these cases there is usually bulging at the anterior costal margin. Incision is made paralleling the costal margin and deepened to the peritoneum which is then separated from the anterior abdominal wall and from the under surface of the diaphragm until the abscess is reached and drained. This procedure is entirely satisfactory for the minority of cases in which the abscess is so located.

It is believed that the extraperitoneal technique developed by Nather and Ochsner and published by them in 1923, is the most valuable contribution that has been made to the surgery of these infections. Unfortunately, popular acceptance has been singularly slow, and for this reason a large series of cases so treated is not available. However, the remarkable drop in the mortality rate in the series reported to date must force acceptance upon us. In nineteen cases reported by Ochsner, there was one death, a mortality rate of 5.2 per cent. Flynn, in 1932, reported thirty-eight cases, in which the retroperitoneal approach was used; there were seven deaths, a mortality of 18.4 per cent, It is interesting to note that in the same series the mortality rate from transpleural or transperitoneal procedures was 41 per cent. Of course, this comparison is open to the criticism that there were 275 cases treated by the latter techniques.

Sayre warmly commends the Ochsner operation in his recent paper on subphrenic infection. Doherty and Rowlands, writing in the London Lancet, give the advantages of the extraperitoneal, as opposed to the transpleural route. It would, therefore, appear that the method is standing the test of mortality rate and time well, and it seems that in this direction lies one hope of relieving the too great mortality. A brief description of the technique will be given in the following case report. A full description, with excellent illustrations, appears in the original article in Surgery, Gynecology and Obstetrics, 1923, Vol. 37, pp. 665-673.

J. W., colored, widowed, aged 39, a resident of Tulsa, Oklahoma. Admitted to Municipal Hospital July 1, 1932, complaining of a huge abdominal swelling which had attained such proportion that she was unable to breathe easily and was vomiting frequently. The history indicated that patient realized presence of tumor only in March of that year, but its great size impressed one with the belief that it either had been present for a longer period than that, or had increased very rapidly in size as a result of hemorrhage or malignancy. Menses had ceased since March, 1932, and aside from urinary frequency and the symptoms already recounted incident to the increased intra-abdominal pressure, there were no others. Physical examination revealed a colored woman of about forty years with the "pinched facies," so often associated with large ovarian cysts. There was evidence of recent marked loss of weight. Abdominal examination disclosed a marked enlargement, symmetrical in outline, extending over the entire ab-

domen, making it tense and shiny. A distinct fluid wave could be elicited, but there was no shifting dullness in the flanks. Although the abdomen was quite tense, it seemed that a mass extending upward almost to the xyphoid process and laterally into the flanks could be palpated. Its consistency was not hard, like that of the usual fibroid; other than this, no information could be obtained. There was no tenderness, and no viscera were palpable. On vaginal examination the perineum was that of a nullipara, moderate mucoid discharge, vaginal mucosa somewhat congested in appearance, cervix softened and pointed forward, and apparently continuous with abdominal mass—movement of cervix caused a corresponding movement of abdominal tumor. Body of uterus could not be outlined, nor could adnexa. Rectal examination negative. Remainder of general physical examination revealed no abnormalities. Diagnosis of ovarian cyst with ascites versus soft uterine fibroid with ascites was made and possibility of a malignant degeneration of either of these conditions was considered.

On July 5, through a midline incision under spinal anesthesia, a huge, multilocular ovarian cyst, weighing sixteen pounds, was removed. The specimen completely filled a five-gallon glass container. About 1500 cc, of ascitic fluid was present, and there were numerous peritoneal cysts ruptured during the tumor's delivery. The cyst was intraligamentary on the right side, and was attached by well-organized adhesions to the under surface of the liver, gallbladder, right kidney region, and to the transverse colon. As considerable time was consumed in removing the cyst and the operation was being done under spinal, the abdomen was immediately closed without the usual prophylactic removal of the appendix. The patient made an uneventful recovery and left the hospital in twelve days.

On July 29, patient presented herself at our office, complaining of abdominal pain, and fever of about five days' duration. On examination her abdomen was found to be quite tender, rigid and slightly distended in the lower right quadrant, in which area there seemed to be a palpable mass. She declared that a few days after leaving the hospital she had some pain in the right lower abdomen, to which she paid no attention, until it became fairly severe after a few days' duration. A diagnosis of a ruptured appendix, with formation of appendiceal abscess, was made, and the patient at once referred to the hospital. She was kept in bed, with an ice cap to the abdomen, and the head of the bed elevated, until August 9. During this period, temperature fluctuated between normal and 101 degrees—temperature being normal from August 7 to 9. On the latter date, under spinal anesthesia, the abdomen was opened through a McBurney incision, and appendiceal abscess drained, without contaminating the surrounding peritoneum. No attempt was made to remove the appendix. The wound drained freely, and after August 14 temperature was normal. At this time her general condition was fair, but she displayed the depletion and malnutrition incident to sepsis.

On October 1 our office was notified that the patient had suffered a fairly severe chill on the evening of September 27, followed by pain in the upper right abdomen and loin. On the following day pain continued and fever was present. Pain had gradually increased, accompanied by fever and occasional chilly sensation, until we were notified. The interval between this fresh illness and discharge from the hospital on September 2, had been free from abnormal incident, and patient had increased somewhat in weight and strength. She was again ordered to the hospital, entering with a temperature of 102, pulse 140, respiration of 28, general condition quite poor. Examination of the thorax revealed decreased fremitus and impaired resonance on percussion over the lower right thorax from the eighth rib down; in this area breath sounds were diminished and a few crepitant rales could be heard. There was no friction rub. The upper right abdomen, just beneath the costal margin, was tender on palpation and there was some rigidity of the muscles, but no bulging. There was definite tenderness along the right twelfth rib, most marked at its tip, and this tenderness, in a lesser degree, was present over the right loin. There was no neck pain or pain in the right shoulder blade. Total leucocyte count was 26000, with a decided shift in the Schilling count to the left. Urinalysis was negative. In view of the recent recovery from an appendiceal abscess, subdiaphragmatic infection was at once considered, as was the possibility of an empyema on the right side. Patient was kept in bed in the Fowler position, fluids forced by mouth and hypodermoclysis. General condition continued very poor, with a high pulse rate and septic temperature, and on October 5 an x-ray examination to determine position of right diaphragm and condition of right pleural cavity was made. Only an antroposterior view was made and the x-ray report is here quoted: "The x-ray reveals an obliteration of the right costo-phrenic angle with possibilities of fluid, pus, or pleural adhesions. This, however, should be ascertained by aspiration." As it was necessary to move the patient across town, from the colored Municipal Hospital to the City Hospital for such x-ray examination, no repetition of the roentgen ray survey was ordered. because of patient's poor condition. Several aspirations of the right lower pleural cavity proving negative, and the history and clinical findings pointing so strongly to subphrenic abscess, it was decided to operate for this condition. The patient's critical condition, and the probability of the abscess being in the right posterior superior space and probably also in the corresponding right subhepatic area, decided us in favor of the retroperitoneal technic of Nather and Ochsner. Accordingly, under spinal anesthesia, the right twelfth rib was resected subperiosteally, the renal fascia exposed and followed upward to its continuation with the posterior parietal peritoneum. The peritoneum was carefully dissected from the under surface of the diaphragm for a short distance, and then broken into with the finger, and a large amount of very foul-smelling pus obtained. It was apparent from the edema and bulging that the subhepatic area was likewise infected, and this was next broken into, and two large, soft, rubber tubes were introduced into the respective cavities. About 800 cc. of purulent material drained immediately from these pockets. Patient left the operating table in somewhat better condition than before operation was begun. Her convalescence was somewhat prolonged, due to an infection which developed in the perirenal fat, but she steadily improved and there was little fear at any time of a fatality. She was discharged on November 24, 1932, in excellent condition. When last seen, about one month ago, she weighed 140 pounds, looked extremely well, had no complaints, and presented well-healed scars.

SUMMARY.

Subphrenic abscess, despite the attention given it and the numerous and excellent papers written about it, continues to

have a high mortality. It is believed that this can, and should, be reduced.

Early diagnosis is most important in securing this desideratum. A consideration of the possibility of the presence of the condition, careful attention to the history, clinical study of the case, and, probably most important, proper roentgenologic study should, in nearly every case, establish the correct diagnosis. It is felt that aspiration of the subphrenic region has no place among methods of diagnosis, except during the actual course of operation. Aspiration of the pleural cavity is, of course, not only permissible, but necessary, in difficult cases.

Surgical interference is absolutely indicated, once the diagnosis has been made. The employment of the retroperitoneal technique, in the large group of cases in which it is surgically feasible, should logically be followed by a reduction in mortality, as well as morbidity—as it has already been, notably in the cases of Ochsner.

A case is reported in which the use of the retroperitoneal technique resulted in a favorable outcome, although the patient was seriously ill.

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*Presented May 16-17, 1933, Surgical Section Oklahoma State Medical Association.

Suite 823, Wright Bldg.

SQUIBB HALIBUT-LIVER OIL CONCENTRATE TABLETS WITH VIOSTEROL 250-D

A new product that has just been released by the Squibb Laboratories is Squibb Halibut-Liver Oil Concentrate Tablets with Viosterol 250-D. These highly potent, chocolate-coated tablets will be prescribed by physicians as an alternative means of administering the vitamins of Viosterol-fortified Halibut-Liver Oil.

Each tablet equals in Vitamin A and D potency, 10 drops (approximately 10 mins.) of Squibb's Stabilized Halibut-Liver Oil with Viosterol 250-D. The vitamin-potency of the tablets is protected by the same methods that have been found to be so successful in affording similar protection in the manufacture of Adex Tablets.

WHAT EVERY WOMAN DOESN'T KNOW—HOW TO GIVE COD LIVER OIL.

Some authorities recommend that cold liver oil be given in the morning and at bed time so as to assure an appetite for the oil, while others prefer to give it after meals in order not to retard gastric secretions. If the mother will place the very young baby on her lap and hold the child's mouth open by gently pressing the cheeks together between her thumb and fingers while she administers the oil, all of it will be taken. The infant soon becomes accustomed to taking the oil without having its mouth held open. Mead's Newfoundland Cod Liver Oil, of minimum acidity and prepared from fresh, healthy livers, is well tolerated by infants and children, and is palatable without flavoring.

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, 203 Ainsworth Building, McAlester, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes of addresses, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

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EDITORIAL

COME TO TULSA.

The officers of your association, as well as the section officers, have done everything possible to prepare a program for the Tulsa meeting that will give to the doctors of the state scientific information up to date and well worth your time and attention. The Tulsa County Medical Society has organized this meeting in such a manner that the program will be "put over" without a hitch, and the entertainment features will, I am sure, be greatly enjoyed by all participants.

It has been our observation that the best doctors in the state attend these meetings. Of course, you may be a good doctor and not attend, but you will be a better doctor if you do. The very contact with your fellow practitioners is well worth the time and expense. You need this meeting, and organized medicine in Oklahoma needs your presence and interest, particularly at this time, when not only professional subjects are to be discussed, but grave economic problems demand our careful consideration.

Give of your time and talent to this organization which is trying to do everything possible to forward the aims of organized medicine and maintain the highest professional and economic standards.

RED MEDICINE

There are today potent influences at work, the objective being the socialization of the practice of medicine. Twice in the past week I have received, to release to the lay press and for use in the Journal, the manuscript of addresses by Mr. John A. Kingsbury, who is the Secretary of the Milbank Memorial Fund, which institution is putting out much misinformation relative to medical economics.

It appears that in the summer of 1932 this gentleman spent five weeks in Russia inspecting the medical system and came back quite thoroughly sold on "Red Medicine". In this system all doctors become state officials, only a few of the older men retaining private practice. These state doctors have fixed hours for work; they are paid by the government a salary amounting to about the same as a teacher, and even less than an expert mechanic. All of the doctors are over-worked in an attempt to meet the demands of the large number of patients. There is a rule that they must give each patient ten minutes' time or see six each hour. It is evident that history-taking and examinations are very superficial and incomplete. At the medical center the patient may choose his doctor, but if a call is to be made to the home he must accept the doctor assigned to that particular district.

Under this system the practice of medicine is a quantitative thing, the element of individual interest being eliminated. It might be acceptable to a socialist nation, but a very poor method to pursue among a freedom-loving people. Quoting from a letter written by Sir James Purves Stewart: "It seems to me that, boiling it down

crudely to bedrocks, everything depends on whether we accept the communist dogma that all men are equal, and therefore deserving of equal rewards from the state, whether they are idle or industrious, extravagant or thrifty, intellectually dull or alert. Once the primary axiom is accepted, all the rest follows as a matter of course. But some of us cannot swallow the fundamental principle."

This propaganda of Kingsbury's is reaching the lay readers and they are taking it to be gospel, consequently it is the duty of the medical profession to see to it that this "Red Medicine" movement is met by an honest effort and an honest statement of facts regarding the matter.

We are not standpatters as to the present system of practice, but will stick to it until such time as a constructive program is advanced, and not run off after this communistic rot.

Editorial Notes—Personal and General

DR. J. M. ALLGOOD, formerly of Gould, announces his removal to Altus.

DR. ROY M. SWEENEY, Sapulpa, who has been ill following an operation, is reported improved.

DR. J. N. HARBER, Seminole, has returned from Arizona where he has been for the past several months.

DR. T. A. HILL, Watonga, has been appointed Secretary of Blaine County Medical Society, to replace Dr. W. F. Griffin.

DR. J. W. McCLENDON, Earlsboro, has been appointed to succeed Dr. Thomas H. Berry, former medical superintendent of the state hospital at Supply.

THE DALLAS SOUTHERN CLINICAL SOCIETY had the following Oklahoma doctors in attendance at their meeting in March: Doctors L. C. Vance, Ponca City; E. E. Conner and J. H. Hollis, Mangum; O. G. Bacon, Frederick; C. C. Gardner, Atoka.

THE AMERICAN MEDICAL GOLFERS' ASSOCIATION will hold its twentieth annual tournament at the Mayfield Country Club in Cleveland, Monday, June 11, 1934. All male fellows of the American Medical Association are eligible and cordially invited to become members of the A. M. G. A. Write the Executive Secretary, Bill Burns, 4421 Woodward Ave., Detroit, for application blank. Participants in this tournament are required to furnish their home club handicap, signed by the secretary. No handicap over 25 is allowed, except in the Kickers. No trophy is awarded a fellow who is absent from the annual dinner.

THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER will hold its annual meeting at Cleveland, Ohio, June 7, 8, and 9, 1934, which is the week preceding the meeting of the American Medical Association. This meeting is held under the presidency of Dr. R. M. Howard of Oklahoma City. It is impracticable to publish the program in detail; however, the goiter subject will be discussed in all its phases by the leading authorities of the United States, and you can be assured of a most interesting and instructive program.

THE BULLETIN OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

The Oklahoma State Medical Association takes a very keen interest in anything which would tend to increase the knowledge of cancer among the physicians of the state. The Society thinks that the above mentioned bulletin is a very useful instrument for this purpose. It contains a number of short practical articles written by distinguished authorities in the field of cancer therapy and cancer research. It offers, at a subscription price of only $1.00 per year, an easy and practical way for the physician to keep abreast of cancer control progress. A complimentary copy of the bulletin will gladly be sent to any physician requesting it from the American Society for the Control of Cancer, 1250 Sixth Avenue, New York City.

News of the County Medical Societies

BLAINE COUNTY MEDICAL SOCIETY met in regular session March 15th, at Watonga. Dr. A. B. Chase, Oklahoma City, cardiologist and Councilor of District No. 4, gave a short address outlining the advantages of an active county society.

Dr. A. H. Akin, Oklahoma City, urologist, gave an interesting paper on "The Obstructing Prostate," using motion pictures.

Dr. Onis G. Hazel, Oklahoma City, dermatologist, presented a paper on "The Newer Concept of Fever Therapy in Neuro-Syphilis."

OKMULGEE-MUSKOGEE COUNTY MEDICAL SOCIETIES held a joint meeting in Muskogee March 12. Okmulgee County Society prepared and presented the following program: "Points in Pediatrics," J. K. Cotteral, Henryetta; "Hypertension," M. D. Carnell, Okmulgee; "Radiation of the Pituitary Gland for Menstrual Disorders," W. C. Vernon, Okmulgee; "Injection Method of Treatment for Hemorrhoids," W. C. Vernon, Okmulgee.

OKMULGEE-MUSKOGEE COUNTY MEDICAL SOCIETIES held a joint meeting in Okmulgee March 26th. The following program was presented by the Muskogee County Medical Society: "Fractures," J. H. White; "Tularemia," H. T. Ballantine; "Gonorrhea and Its Relationship to General Medicine," S. D. Neely, all of Muskogee.

GRADY COUNTY MEDICAL SOCIETY met in regular session April 4th in Chickasha. Dr. J. M. Byrum, Shawnee, gave a paper on "Peritonitis"; Dr. J. W. Walker, Shawnee, gave a lecture on "Progress Medicine has Made." Drs. McFarland and Newlin, Shawnee, were also on the program.

WOODWARD COUNTY MEDICAL SOCIETY met April 10th, in Shattuck, and presented the following program:

Banquet supper, 6:00 P. M.

"Diagnosis Tuberculosis," Dr. Ellis Lamb, Clinton.

"New Conceptions Regarding Pulmonary Tuberculosis," Dr. R. L. Hickman, Supply.

"Chest Injuries and Management," Dr. C. R. Silverthorne, Woodward.

"Pneumonia, Diagnosis and Treatment," Dr. J. J. Davis, Higgins, Texas.

"Tuberculosis," Dr. Floyd Moorman, Oklahoma City.

DOCTOR ROSS GROSSHART

Dr. Ross Grosshart, Tulsa, prominent physician and surgeon, died at his home after a short illness.

He was born in Pittsville, Missouri, and obtained his early education there. After graduating from the University of Kansas in 1898, he served as an intern in St. Luke's Hospital, Kansas City, and practiced medicine in Rockville, Missouri, before coming to Tulsa in 1905.

Dr. Grosshart was president of the Tulsa County Medical Society twenty years ago, and has been an outstanding member since that time. He was founder of the Grosshart hospital many years ago, and later had an interest in the Physicians and Surgeons hospital. He was a thirty-second degree Mason, having been a member of this organization for about thirty years.

Dr. Grosshart is survived by his widow, one daughter and two sons.

SARCOMA OF CHEEK FOLLOWING TRICHO X-RAY TREATMENT FOR HAIR ON FACE

Ira I. Kaplin, New York (Journal A. M. A., Feb. 24, 1934), points out that repeated roentgen treatments may cause destructive lesions of the skin. Because of its potential danger, irradiation should be employed only by those qualified by special training and experience. These destructive changes may occur many months or even years after treatment. Malignant changes may occur following necrosis in an over-irradiated skin area. The removal of hair by x-rays is fraught with danger. The author reports a case in which sarcomatous degeneration followed repeated treatments with x-rays for hair on the face, applied by Tricho, a commercial beauty parlor.

URETHROCYSTOGRAPHY IN THE MALE

Previous experience with urethrography or cystography enabled Joseph A. Hyames, Herbert R. Kenyon and Samuel E. Kramer, New York (Journal A. M. A., Dec. 23, 1933), to develop a technic for the performance of urethrocystography by combining several procedures previously advocated by other workers with a simplified manometrically controlled syringe devised by them. The patient is placed on an x-ray table equipped with a Bucky diaphragm. A small catheter is introduced under asepsis, the bladder capacity estimated with sterile water and a quantity of the 3 per cent solution of sodium iodide slightly less than the estimated capacity is introduced through the catheter, which is then withdrawn. The oblique and anteroposterior positions are most satisfactory. During the first exposure the patient is placed obliquely on the table, with the under thigh flexed and the upper thigh extended. The penis is extended, below and parallel to the flexed thigh, and the urethral contrast solution injected through the meatus, the manometrically controlled syringe provides a safeguard against the use of excessive force. The total quantity of fluid used for urethral distention is approximately from 50 to 70 cc. The use of oily solutions increases the possibility of leakage. The tube is focused on the lower portion of the symphysis pubis and inclined toward the head at an angle of 5 degrees. The roentgen exposure is made as the fluid is flowing freely into the bladder. Should the flow be impeded, the patient is instructed to void as the exposure is made. If the bladder cannot be entered because of impassable obstruction, the bladder contents may be rendered opaque by the intravenous use of a contrast substance, after which the urethra can be filled in the ordinary manner. A second exposure is made with the patient in the dorsal position, the legs extended and the penis drawn down between the thighs. The roentgenograms are obtained by using an x-ray apparatus of the greatest penetration, thus diminishing the time of exposure. The authors have found it unnecessary to go above a pressure of 220 mm. of mercury. A drop in pressure of from 10 to 20 mm. is usually noted as the external sphincter relaxes. Pressures exceeding 200 mm. of mercury suggest the possibility of trauma, spasm, or lack of cooperation on the part of the patient, which may prevent satisfactory filling of the posterior urethra. Excessive pressures may result in mucosal injury and, when this occurs in the bulb, the contrast material may enter directly into the vascular system, owing to the intimate relationship of the vessels to the mucosa in this region. In the author's experience this has occurred only in cases of urethral stricture involving the bulbomembranous junction in which recent instrumentation had been attempted and manometric control was not employed. Although they have not observed any constitutional reaction or permanent ill effects following urethrovenous injection, its occurrence emphasizes the necessity of employing innocuous solutions. Following instrumental, exploration of the canal, an opportunity should be afforded for the traumatized urethral areas to heal before urethrocystography is performed. Should both roentgenographic and instrumental investigation be contemplated at one sitting, the former should precede other intra-urethral manipulations. Injections of contrast mediums are contraindicated in the presence of acute infection, active inflammations and recent extensive injuries. The authors discuss the interpretation of urethrocystograms, stricture of the urethra, enlargement of the prostate and observations following operations for vesical neck obstructions and state that the combined method has adequately demonstrated bladder, urethral and adnexal changes and has proved less expensive, less time consuming and more satisfactory as a routine diagnostic method than urethrography or cystography as individual procedures.

PROGRAM

FORTY-SECOND ANNUAL SESSION, OKLAHOMA STATE MEDICAL ASSOCIATION, TULSA, OKLAHOMA

MAY 21, 22, 23, 1934

Meeting Place—All meetings will be held in the Mayo Hotel. Telephone, Tulsa, 3-2141.

Registration—Sixteenth floor, Mayo Hotel. All physicians, except those outside the state and visiting guests, must hold membership for the year 1934 before registering. Please attend to this, if you are not in good standing, by seeing your County Secretary at once.

Women's Auxiliary—The Women's Auxiliary of the Oklahoma State Medical Association extends a cordial invitation to the women visitors at the state meeting in Tulsa, May 21-23, 1934, to attend the meetings and entertainment provided for women during the meeting. Registration will be held on the Mezzanine floor, Mayo Hotel. Monday, May 21st, 10:00 A. M., the State Executive Board will hold its meeting on the Mezzanine floor. (Complete program in the May issue of the Journal).

Medical Reserve Corps Dinner—Mayo Hotel, 6:00 P. M., Tuesday, May 22nd. Guest of honor will be Dr. Charles F. Craig, Colonel, U. S. Army, Rtd., Tulane University, New Orleans.

American College of Physicians—Luncheon, Tuesday Noon, Mayo Hotel for the Fellows and Associates of the College.

Guests of Honor—Dr. Donald C. Balfour, Mayo Clinic, Rochester; Dr. Chas. F. Craig, Colonel, U. S. Army, Rtd., Tulane University, New Orleans.

Council—The Council will meet at 3:00 P. M., Monday, May 21st, in the Lounge room, sixteenth floor, for the transaction of business affairs, and thereafter on call of the President.

House of Delegates—Will meet at 7:30 P. M., Monday, May 21st, Junior Ball Room, Mezzanine floor, and at 8:00 A. M., Tuesday, May 22nd, same place.

General Sessions—Will be held, beginning at 9:00 A. M., in the Crystal Ball Room, sixteenth floor.

TUESDAY, MAY 22.

9:00 to 10:00 A. M., moving pictures.

10:00 to 11:00 A. M., "Benign and Malignant Lesions of the Stomach and Their Management," Dr. Donald C. Balfour, Rochester.

11:00 to 12:00 A. M,, "Amebic Dysentery," Dr. Charles F. Craig, New Orleans.

WEDNESDAY, MAY 23.

9:00 to 9:30 A. M., "Doctors in Politics," Dr. Louis H. Ritzhaupt, Guthrie.

9:30 to 10:00 A. M., Memorial Ceremony.

10:00 to 11:00 A. M., "Amebic Dysentery," Dr. Charles F. Craig, New Orleans.

11:00 to 12:00 A. M., "The Duodenum," Dr. Donald C. Balfour, Rochester.

SECTIONS

All Sections will meet at 1:30 P. M., Tuesday, May 22nd, and at the same hour on Wednesday, May 23rd. Meeting places will be as follows:

Surgery—Crystal Ball Room, sixteenth floor.

Medicine—Junior Ball Room, Mezzanine floor.

Obstetrics and Pediatrics—Lounge Room, sixteenth floor.

Eye, Ear, Nose and Throat—Main Private Dining Room, Mezzanine floor.

Urology and Dermatology—Room B (formerly called Men's Writing Room), Mezzanine floor.

GENERAL INFORMATION

The mornings of May 22nd and 23rd will be given up entirely to General Meetings, these meetings to be addressed by the guest speakers, from 10:00 A. M. to noon. It is very important that all in attendance should be prompt, as it is very

disconcerting to the speaker to have any disturbance after his address is begun.

Please note carefully the places of meeting of the Scientific Sections, as much disturbance can be avoided by going directly to the section which you have decided to attend.

Early registration of the members of the profession of Tulsa will be greatly appreciated, thereby facilitating the registration of out of town members.

The commercial exhibits will be held on the same floor as the registration, giving everyone an excellent opportunity to study this very important feature of the meeting.

Discussion of Papers—Men proposing to discuss papers in the Scientific Sections should speak slowly and distinctly in order that the reporter may be able to accurately report the discussion. Each discussor should clearly state his name and address before beginning his remarks, and as far as practicable it would be appreciated if the discussor would put in writing his remarks and hand to the reporter.

GENERAL MEETING

Tuesday, May 22nd

8:00 P. M.

Crystal Ball Room, sixteenth floor, Mayo Hotel, Dr. A. W. Pigford, General Chairman, presiding.

Invocation—Rev. C. C. Grimes, pastor of Boston Avenue Methodist Church, South.

Violin Solo—Mrs. G. Garabedian.

Introduction of Guests—Dr. A. W. Pigford.

Address of Welcome on behalf of the City of Tulsa—Dr. T. A. Penny, Mayor.

Address of Welcome on behalf of the Tulsa County Medical Society—Dr. Ned R. Smith, president.

Response—Dr. T. H. McCarley, McAlester, retiring president.

President's Address—Dr. LeRoy Long, Oklahoma City.

9:00 P. M.

President's reception and dance, Crystal Ball Room.

GOLF

MONDAY, MAY 21

Annual Tournament, Tulsa Country Club, starting at noon. All green fees paid. A dinner and entertainment will follow at the club house, $1.50 per plate.

TUESDAY, MAY 22

All members of the State Medical Association may play at any of the following courses, green fees paid by person playing:

Tulsa Country Club.
Oakhurst Country Club.
Indian Hills Country Club.

Committee: Drs. James Stevenson; S. Murray and E. L. Cohenour. Prizes donated by the following individuals and firms of Tulsa:

Dr. W. Albert Cook
H. H. (Scotty) Taylor
Morningside Hospital
Medical Arts Building
Medical Arts Prescription Shop
Mayo Hotel Pharmacy
American Optical Company
Oakhurst Country Club Golf Shop
Oklahoma Hospital Sanitarium
Tulsa Country Club Golf Shop
Indian Hills Country Club Golf Shop
Roy Getman Drug Store
McFarlin Country Club
Martin Fleming Company
Medical Arts Florists
Renbergs
Forsythe Surgical Supplies
Phillips Produce Company
Walk-Over Boot Shop
Public Service Company
Robert McBirney Company
Palace Clothiers
Bob Evans Pharmacy
Clark's Good Clothes
Jenkins Music Company
Flower Hospital
Haynes Auto Supply
Bliss Hotel Pharmacy
Bardon's Sporting Goods
Tribune Newsboy
Riggs Optical Company
Lincoln Drug Store
Central Drug Store
O'Hara's Barber Shop
Bishop's Waffle House

MEDICAL RESERVE OFFICERS

Medical Reserve Officers dinner will be in the Mayo Hotel at 6:00 P. M., May 22. (Tickets $1.00 each will be on sale at Registration desk. Please buy your tickets when you register as it is necessary to know in advance how any will attend).

Col. Charles F. Craig, U. S. Army M.C.,

retired, will be the guest of honor. All Reserve Officers should make a special effort to attend this dinner.

P. P. NESBITT, Chairman,

Committee on Medical Reserve Corps Dinner.

WOMAN'S AUXILIARY

Register on the Mezzanine floor, Mayo Hotel.

MONDAY, MAY 21

(Morning)

10:00 State Executive Board Meeting, Mezzanine floor.

(Afternoon)

1:00 Executive Board luncheon, University Club.

2:00 Motorcade over city.

6:00 Informal dinner and fashion show, Junior League Tea Room.

TUESDAY, MAY 22

(Morning)

10:30 Annual Meeting, Junior Ball Room, Mayo Hotel.

(Afternoon)

1:00 Luncheon, Oakhurst Country Club.
3:30 Post Board Meeting.

(Evening)

9:00 Program and dance; hosts—Tulsa County Medical Society, Mayo Hotel.

OKLAHOMA PEDIATRIC SOCIETY

MONDAY, MAY 21

Clinical Conference will be held in the Solarium, Sixth Floor, Morningside Hospital, from 9:30 A. M. to 12:00 noon. Dr. C. E. Bradley, Tulsa, will be in charge of this program.

(2:00 P. M.)

Blood Dyscrasias in Children—LAVERNE HAYES, Tulsa.

The Relation of So-called Birth Injury to Cerebral Palsy—BEN H. NICHOLSON, Oklahoma City.

Some Conditions in Children Associated With Hypoglycemia—W. MARRIOTT MCKIM, St. Louis, Mo.

Convulsions in Infants—G. R. RUSSELL, Tulsa.

Investigating a Case of Persistent Pyuria—MARY TOWNSEND DEMOTTE, Ponca City.

Some Puzzling Abdominal Conditions in Children—GEORGE ORMISTON, St. Louis, Mo.

Tuberculosis—C. V. RICE, Muskogee.

A dinner for Dr. Marriott and Dr. George Ormiston, one of the staff of the Washington University Medical School, at the Mayo Hotel, at 6:30 P. M. Registration for this dinner will be made at the hotel.

SECTION ON GENERAL SURGERY

Crystal Ball Room-Sixteenth Floor

Chairman—JOHN F. KUHN, Oklahoma City.

Vice-Chairman—WADE SISLER, Tulsa.

Secretary—E. EUGENE RICE, Shawnee.

TUESDAY, MAY 22

(Afternoon)

1:30 *Chairman's Address*—DR. JOHN F. KUHN, Oklahoma City.

1:50 *The Treatment of Cranio-Cerebral Injuries*—DR. LOYAL DAVIS, Professor of Surgery, Northwestern University Medical School, Chicago, Ill.

2:35 *Cholecystelectrocoagulectomy Without Drainage*—DR. MAX THOREK, Professor of Clinical Surgery, Cook County Graduate School of Medicine, Chicago, Ill.

3:20 *Infections of the Hand*—DR. F. L. FLACK, Tulsa. (Discussion opened by DR. A. FOWLER, Seminole.)

3:40 *The Punch Method of Transurethral Prostatectomy*—DR. F. CLINTON GALLAHER, Shawnee. (Discussion opened by DR. W. J. WALLACE, Oklahoma City.)

4:00 *Septicemia*—DR. L. J. STARRY, Oklahoma City. (Discussion opened by DR. FRED CRONK, Tulsa.)

4:20 *Phytobezoar or Persimmon Balls Occuring Around Tulsa, Okla.*—DR.

H. D. MURDOCK, Tulsa. (Discussion opened by DR LEROY LONG, Oklahoma City.)

4:40 *Vaginal Hysterectomy*—DR. WENDELL LONG, Oklahoma City. (Discussion opened by DR. JOHN F. KUHN, Oklahoma City.)

5:00 *Tumors of The Breast*—DR. G. H. NIEMANN, Ponca City. (Discussion opened by DR. FRED GLASS, Tulsa).

WEDNESDAY, MAY 23

(*Afternoon*)

1:30 *Thoracoplasty*—DR. C. A. THOMAS, Tucson, Ariz. (Discussion opened by DR. HORACE REED, Oklahoma City.)

2:00 *The Closure of Adherent Tuberculous Cavities by Combined Artificial Pneumothorax and Phrenectomy*—DR. DAVID W. GILLICK, Shawnee. (Discussion opened by DR. G. S. BAXTER, Shawnee.)

2:20 *Bacteriophage in Peritonitis*—DR. RAYMOND D. JACOBS, Enid. (Discussion opened by DR. CARL HOTZ, Tulsa.)

2:40 *Pneumoperitoneum As a Practical Procedure in Gynecology*—DR. ALFRED H. SUGG, Ada. (Discussion opened by DR. J. M. BYRUM, Shawnee.)

3:00 *The Surgical Abdomen in Everyday Practice*—DR. FRANK H. MCGREGOR, Mangum. (Discussion opened by DR. PAT FITE, Muskogee.)

3:20 *Headaches, Backaches, Their Relations to Pelvic Disorders and Their Treatment*—DR. LEALON E. LAMB, Clinton. (Discussion opened by DR. HORTON E. HUGHES, Shawnee.)

3:40 *Spinal Anaesthesia*—DR. ROSCOE WALKER, Pawhuska. (Discussion opened by DR. PIERRE N. CHARBONNET, Tulsa.)

4:00 *Ano-rectal Fistula*—DR. RAYMOND L. MURDOCK, Oklahoma City. (Discussion opened by DR. V. K. ALLEN, Tulsa.)

4:20 *Skin Grafting*—DR. JOHN F. BURTON, Oklahoma City. (Discussion opened by DR. GEO. KIMBALL, Oklahoma City.)

4:40 *Acute Pelvic Infections*—DR. HOMER C. MANNING, Cushing. (Discussion opened by DR. J. M. BYRUM, Shawnee.)

SECTION ON INTERNAL MEDICINE

Junior Ball Room—Mezzanine Floor

TUESDAY, MAY 22.

Chairman—E. RANKIN DENNY, Tulsa.

Vice-Chairman—PHIL M. MCNEILL, Oklahoma City.

Secretary—BERT F. KELTZ, Oklahoma City.

1:30 *Chairman's Address*—E. RANKIN DENNY, Tulsa.

1:50 *Clinical, Pathological and Experimental Studies in Water Intoxication*—FERDINAND C. HELWIG, Kansas City, Mo.; C. B. SCHUTZ and DWIGHT E. CLERRY, Kansas City, Mo.

2:30 *Parathyroidism*—ALPHONSE MCMAHON, St. Louis, Mo.

3:00 *Anterior Lobe of the Pituitary Gland*—P. A. STALY, Ponca City. (Discussion, F. G. DORWART, Muskogee).

3:30 *Convulsive States Associated With Endocrine Disorders* — HENRY H. TURNER, Oklahoma City (Discussion, HARRY WILKINS, Oklahoma City.)

4:00 *Allergy in Relation to General Medicine* — ALLEN OLSON, Wichita, Kansas.

4:30 *Management of Pulmonary Tuberculosis*—C. A. THOMAS, Tucson, Arizona.

WEDNESDAY, MAY 23

1:30 *The Modern Conception of Acute Intestinal Obstruction*—HAROLD M. TRUSLER, Indianapolis, Ind.

2:00 *Preventive Aspects of Mental Hygiene*—PAUL A. DRAPER, Pueblo, Colorado.

2:30 *The Use of Dilaudid in General*

Practice—CLIFFORD M. BASSETT, Cushing.

2:50 *Cardiac Pain*—W. W. RUCKS, JR., Oklahoma City.

3:10 *Circulatory Disturbances of the Nervous System*—C. J. FISHMAN, Oklahoma City.

3:30 *Blood Complement in Health and Disease*—E. RANKIN DENNY, Tulsa.

3:50 *The Neuraesthic Patient*—S. C. SHEPARD, Tulsa.

4:10 *The Neuraesthic Patient*—FRANK J. NELSON, Tulsa.

SECTION ON EYE, EAR, NOSE AND THROAT

Main Private Dining Room, Mezzanine Floor.

TUESDAY, MAY 22

Chairman—A. S. PIPER, Enid.

Vice-Chairman—P. F. HEROD, El Reno.

Secretary—L. C. MCHENRY, Oklahoma City.

Chairman's Address—

Fuso-Spirochetal Disease—A. S. PIPER, Enid.

Diathermy in Laryngology—MARVIN D. HENLEY, Tulsa. (Discussion, W. L. BONHAM, Oklahoma City; H. P. PRICE, Tulsa.)

The Relation Between Certain Eye Lesions and the Nasal Sinuses—V. V. WOOD, St. Louis, Mo. (Discussion, LEO F. CAILEY, Oklahoma City; E. S FERGUSON, Oklahoma City.)

Multiple Cautery Puncture for Ectropion and Entropion—F. R. VIEREGG, Clinton. (Discussion, C. B. BARKER, Guthrie; H. F. VANDEVER, Enid.)

Benign Tumors of the Sinuses With Review of Literature—ARTHUR H. DAVIS, Tulsa. (Discussion, H. COULTER TODD, Oklahoma City; C. M. FULLENWIDER, Muskogee.)

Indications for Cataract Removal—F. M. COOPER, Oklahoma City. (Discussion, A. W. ROTH, Tulsa; H. S. BROWNE, Ponca City.)

Blue Sclera—L. C. KUYRKENDALL, McAlester. (Discussion, C. H. HARALSON, Tulsa; A. C. MCFARLING, Shawnee.)

Laryngeal Stroboscopy—LYLE S. POWELL, Lawrence, Kansas. (Discussion, RURIC N. SMITH, Tulsa; J. C. MACDONALD, Oklahoma City.)

The Cinch Shortening Method for Extraocular Muscles—HARVEY O. RANDEL, Okmulgee. (Discussion, J. M. STOOKSBURY, Shawnee; L. M. WESTFALL, Oklahoma City.)

Role of the Eustachian Tubes in Health and Disease—W. O. SMITH, Tulsa. (Discussion, A. E. HALE, Alva; D. W. MILLER, Blackwell.)

SECTION ON OBSTETRICS AND PEDIATRICS

Lounge Room—Sixteenth Floor

TUESDAY, MAY 22

Chairman—CARROLL M. POUNDERS, Oklahoma City.

Vice-Chairman—H. J. EVANS, Tulsa.

Secretary—J. B. ESKRIDGE, Oklahoma City.

Chairman's Address—

Pediatrics of the Future—CARROLL M. POUNDERS, Oklahoma City.

Nephritis in Children—F. S. ETTER, Bartlesville. (Discussion, C. V. RICE, Muskogee.)

Treatment of the Infant—W. MCKIM MARROTT, St. Louis.

Allergy in Infancy—FANNY LOU BRITTAIN LENEY, Oklahoma City.

The Asthmatic Child—RALPH BOWEN, Oklahoma City. (Discussion, HUGH C. GRAHAM, Tulsa; C. W. ARRENDELL, Ponca City.)

Diagnosis and Treatment of LaGrippe in Children—J. L. LEHEW, Guthrie. (Discussion, W. M. TAYLOR, Oklahoma City.)

The Use of Diphtheria Toxoid (Alum Precipitate)—C. E. BRADLEY, Tulsa. (Discussion, CHAS. E. WHITE, Muskogee.)

WEDNESDAY, MAY 23

The Mechanism of Labor—GEO. R. OSBORN, Tulsa. (Discussion, W. W. WELLS, Oklahoma City.)

Chorion Epithelioma—J. F. KUHN, Oklahoma City. (Discussion, GRIDER PENICK, Oklahoma City.)

Indications and Contra-indications for Caesarean Section—J. E. KANATSER, Wichita Falls, Texas.

The Nervous and Mental Side of Obstetrics—M. B. GLISMANN, Okmulgee. (Discussion, W. A. DEAN, Tulsa.)

Vaginal Infection With Trichomonas Vaginalis—Roy E. EMANUEL, Chickasha. (Discussion, E. P. ALLEN, Oklahoma City.)

Postpartum Care of the Breasts—CHAS. E. WHITE, Muskogee. (Discussion, FLOYD GRAY, Oklahoma City.)

SECTION ON UROLOGY, SYPHILOLOGY AND DERMATOLOGY

Room B—Mezzanine Floor

TUESDAY, MAY 22

Chairman—S. D. NEELY, Muskogee.

Vice-Chairman—S. F. WILDMAN, Oklahoma City.

Secretary—M. O. NELSON, Tulsa.

Chairman's Address—SHADE D. NEELY, Muskogee.

The Treatment of Bacillary Infections of the Urinary Tract—ANSON L. CLARK, Oklahoma City.

The Urologic Diagnosis of Tumors of the Right Upper Quadrant—DAVID V. HUDSON, Tulsa.

The Clinical Course of Ureteral Anomalies—D. W. BRANHAM, Oklahoma City.

Non-Surgical Consideration of Prostatic Enlargement—S. F. WILDMAN, Oklahoma City.

WEDNESDAY, MAY 23

The Treatment of Early Syphilis—CARL L. BRUNDAGE, Oklahoma City.

Vesicular Eruptions of the Hands and Feet—W. A. SHOWMAN, Tulsa.

The Management of Varicose Eczema and Ulcers—WM. E. EASTLAND, Oklahoma City.

A Generalized Skin Eruption With Gastrointestinal Involvement Due to Two Different Species of Fungi—O. G. HAZEL and JOHN H. LAMB, Oklahoma City.

EXHIBITORS

General Electric X-Ray Corporation.

Pearson School, Inc.

First Texas Chemical Manufacturing Company.

Caviness Surgical Company.

Mead Johnson & Company.

H. G. Fischer & Company.

Gerber Products Company.

Goetze-Niemer Company.

The Dick X-Ray Company.

Grant G. Forsythe, Inc.

COMMITTEE REPORTS

These reports are made in compliance with provisions of the Constitution and By-Laws which call for publication of such matter in the issue of the Journal preceding the Annual Session.

REPORT OF THE COMMITTEE ON CONSERVATION OF HEARING.

In the work for conservation of hearing among school children conducted by the American Federation of Organizations for the Hard of Hearing, there was made the astounding discovery that at least 3,000,000 of these children were victims of some hearing defect. It would seem to require no argument to show that our efforts applied first, to the discovery of these hearing defects through hearing tests, then the further otological examination and treatment both medical and surgical, the adoption of lip reading in public schools, play with normal hearing school fellows, the intelligent application of vocational advice and counsel for these children and their parents, constitute the very highest type of individual and public health. No movement in modern times looking to the conservation of a vital function has been more marked than our particular work for the conservation of hearing in children. The Federation's campaign for encouraging the improvement of hearing aids, both individual and group sets, has brought untold blessings to thousands of hard of hearing people and enable them to enjoy conversation, music, drama, and the church with a result of maintaining more nearly normal their life's contacts. This activity is basically a health activity, if for no other reason than because it promotes hope and happiness, and courage to demand rights and privileges.

Another Federation achievement which may well afford us a profound satisfaction is the public education in aural hygiene, or the health of the hearing faculty, which we are promoting from coast to coast. Every time a Federation member broadcasts, hundreds more learn something about the importance of the hearing, about the physical enemies which threaten it and what to do in case of ear trouble. Printed matter put out by the Federation reaches the great general public at the same time that it reaches those whose hearing is defective. Every time a school survey is made, more teachers begin to think about hear-

ing, not only regarding their pupils, but also about their own hearing or that of friends or relatives; more parents become alive to the care and promotion of children's hearing. The great general public is slowly but surely becoming saturated with this highly valuable health teaching.

Another activity of the Federation is promoted under the heading "Exhibits". Our exhibits, whether conducted by the Federation or by its various leagues, are always accepted among the scientific health exhibits of medical organizations throughout our country, even including the scientific exhibit of the American Medical Association. The medical world, at least, looks upon these exhibits as health exhibits.

J. E. DAVIS, Chairman;
CHARLES M. FULLENWIDER,
L. C. McHENRY.

REPORT OF COMMITTEE ON CRIPPLED CHILDREN

The State program for the care of crippled children has continued in about the usual routine during the last year. There has been no particular occasion for the committee to make recommendations or suggestions.

There is still some criticism of the Oklahoma House Bill No. 170, particularly regarding the transferring of acute cases from distant points to the Children's Hospital in Oklahoma City. The committee believes that there are several provisions in the Kansas Law which should be considered in respect to possible amendment of the Oklahoma Law. The Kansas Law is similar to the Oklahoma Law except as follows:

The Oklahoma Law gives the county judge jurisdiction over indigent children and therefore the judge is the one who decides whether or not the case is a deserving indigent. The Kansas Law gives the probate judge jurisdiction, but the medical profession of Kansas was influential in revising the law, limiting the cases to orthopedic and plastic conditions. One of the objections expressed by a number of medical men regarding the Oklahoma Law, is that there is no such limitation. Another criticism is that the judge is not always aware of the financial status of the individual and patients who could pay part fees and are given charity service. In Kansas the law provides for a commission of five men appointed by the Governor for a term of five years each. This body, however, is non-political. In Oklahoma the work is centralized in a few hospitals, whereas in Kansas provision is made for centers throughout the entire State. A hospital rate is fixed by the commission, not to exceed $21.00 per week, while in Oklahoma the limit paid to the hospital is $15.00 per week and this includes professional services, braces and all hospital care. The Oklahoma Law specifically states that no fee shall be paid any surgeon or nurse, while the Kansas Law allows the surgeon to be paid a small fee fixed by the Kansas Commission for Crippled Children. These fees average from one-fourth to one-third of the regular surgical fees. The Oklahoma Law provides that the Oklahoma University School of Medicine prepare proper forms and approve hospitals and surgeons, whereas the Kansas Law leaves this to the Commission. The Oklahoma Law does not provide more than one general clinic for each congressional district. However, the Society for Crippled Children holds a great many clinics in various localities throughout the year. The doctors and nurses donate their services and the local clubs or individuals arrange for the clinics. In Kansas the clinics are held at the discretion of the commission and the expense is prorated among the various counties participating in that particular clinic.

The Committee recommends that legislative preparation be made to revise the Oklahoma Law.

The Oklahoma Society for Crippled Children has 160 life members who have paid $100.00 or more. The annual membership fee is $2.00 and in 1933 there were 1,445 paid up memberships. In 1933, 18 clinics were held throughout the State, where 691 children were examined. There has been a total of 8,569 children examined since 1926 in 237 clinics. There are 11,493 cases on file in the office of the Secretary of the Society and 8,883 children have been hospitalized under House Bill 170.

The Executive Secretary of the Crippled Children's Society is Mr. Joe N. Hamilton, Franklin Building, Oklahoma City, and any physician wishing special information will find that office always ready to cooperate.

EARL D. McBRIDE, Chairman,
S. R. CUNNINGHAM,
WADE SISLER.

ANNUAL REPORT
of the
Secretary-Treasurer-Editor
October 2, 1933, to April 30, 1934.

To Members of the Oklahoma State Medical Association:

In conformity with the Constitution and By-Laws, I hereby submit the report of various transactions during the past year.

Detailed statements of all activities, financial transactions, duplicate deposit certificates and other business matters have been submitted to the Council for their audit.

Membership: On April 30, 1933, we had 1447, and on this date we have 1464.

Deaths of Physicians: These will appear in the Report of the Committee on Necrology, published in the June Journal.

Medical Defense: The following cases have either been settled, dropped or disposed of:

Settled:

Tulsa County, No. 56051.

Pending:

Caddo County, No. 9407.
Canadian County, No. 9422.
Choctaw County, No. 6644.
Logan County, No. 7693.
Osage County, No. _____

In addition to the above, there are now pending the following cases, the progress and status of which is unknown, as they are pending or dormant in the courts:

Blaine County, No. _____
Carter County, No. _____
Carter County, No. _____
Craig County, No. _____
Garvin County, No. _____
Hughes County, No. _____
Payne County, No. _____

Journal and Advertising: It is always in order to call your attention and urge upon you that you patronize those who use the pages of the Journal for advertising purposes. Not only is this a reciprocal measure but we can only sell our advertising by

showing the advertisers that they receive profitable returns for the money invested.

The Journal, through the past year, has maintained its usual size in spite of the fact that there has been some decrease in income from advertisinng. We have thought it advisable in some issues to cut down the amount of editorial material when there are some special features that demand the space. I want to particularly thank the doctors who have furnished us with abstract material, as I know this takes a great deal of time and requires considerable reading. The material that has been abstracted has been of the highest quality and has been of inestimable benefit to the subscribers of the Journal.

FINANCIAL STATEMENT

CASH RECEIPTS AND DISBURSEMENTS

Oklahoma State Medical Association, May 1, 1933, to October 2, 1933. Dr. C. A. Thompson, Secretary-Treasurer.

General Fund

Balance May 1, 1933	$3,433.86
Receipts	
Notes Payable (borrowed money)	2,000.00
Advertising	1,304.54
Membership	220.00
Total Receipts	$3,524.54
Total Cash to Account for	$6,958.40
Disbursements	
Claude A. Thompson, Salary—five months at $200.00	$1,000.00
Advances	199.54
Oltha Shelton, Salary—five months at $125.00	625.00
Advances	369.75
Printing of Journal	1,732.00
Expense Annual Meeting	705.65
Council and Delegate Expense	491.60
Postage	132.84
Printing, Stationery and Office Supplies	118.89
Rent	150.00
Treasurer's Bond and Audit	135.00
Telephone and Telegraph	39.71
Press Clipping Bureau Services	22.00
Interest on Borrowed Money	46.50
Extra Office Salaries	10.40
U. S. Check Tax	1.76
Miscellaneous Expense	9.48
Total Disbursements	$5,790.12
Balance on hand October 2, 1933	$1,168.28
Medical Defense Fund:	
Balance May 1, 1933	$ 42.67
Receipts	
	None
Total Cash to Account for	$ 42.67
Disbursements	
Balance October 2, 1933	$ 42.67

The above statement taken from the Audit of Charles A. Wright, Certified Public Accountant, Muskogee, Oklahoma.

FIRST NATIONAL BANK

McAlester, Okla., April 30, 1934.

Dr. L. S. Willour, Secretary-Treasurer,
Oklahoma State Medical Association,
McAlester, Oklahoma.

Dear Dr. Willour:

This is to certify that according to our records, the following accounts had a credit balance, subject to check, at the close of business April 30, 1934, as follows:

Oklahoma State Medical Association

General Fund	$1,806.82
Medical Defense Fund	1,542.11
Post Graduate Fund	47.58

Yours very truly,

J. K. PEMBERTON,
Vice-President and Cashier,
The First National Bank.

AUDITOR'S REPORT

April 30, 1934.

Dr. T. H. McCarley, President,
Oklahoma State Medical Association,
McAlester, Oklahoma.

Dear Doctor McCarley:

At your request I have audited the books of account, records and investments of Dr. L. S. Willour, Secretary-Treasurer, Oklahoma State Medical Association, McAlester, Oklahoma, for the period beginning October 3rd, 1933, and ending April 30th, 1934, and present herewith the following schedules, together with the comments and supporting exhibits.

Cash receipts were traced to the bank through a detailed checking of items received against deposit tickets as shown on file in the bank. Cash expenditures and disbursements were checked against the bank's records, all vouchers and checks were examined and compared with the original entries, endorsements scrutinized and found to be in order.

Two checks, numbers 3517 for $4.00, 3574 for $1.00, totaling $5.00, drawn on the Commercial National Bank, Muskogee, Oklahoma, by the former Secretary-Treasurer, were found to be still outstanding. Instructions which were verified by me have been given to the Commercial National Bank, Muskogee, Oklahoma, that when and if these checks are presented that they be forwarded to the First National Bank at McAlester, Oklahoma, for payment. I have therefore considered these checks in a reconcilement of the account at the First National Bank, McAlester, Oklahoma, as a proper liability.

Under date of October 2, 1933, all bank accounts of the Oklahoma State Medical Association were carried at the Commercial National Bank, Muskogee, Oklahoma, and were subsequently transferred to the First National Bank, McAlester, Oklahoma, where the accounts are now carried.

All accounts at the Commercial National Bank, Muskogee, Oklahoma, have been properly closed.

I find that at the time Dr. Willour took over the affairs of the Association that there were two Notes Payable outstanding to the Commercial National Bank, Muskogee, Oklahoma, for $1000.00 each, or a total of $2000.00, collateralized by a like amount of Fourth 4¼ Liberty Loan Bonds. These notes were due on January 15, 1934, and February 2, 1934, and

were paid promptly at their maturity, and the collateral properly released and returned to the Secretary-Treasurer. There was also an Account Payable item to the Hoffman-Speed Printing Company, Muskogee, Oklahoma, covering the printing of the September Journal, that I find to be paid in full by the present Secretary-Treasurer, the amount being $410.52.

There was also taken over the following Accounts Receivable:

Dr. C. A. Thompson	$199.54
Oltha Shelton	369.75

These amounts representing advances on subsequent salaries. The account of Dr. C. A. Thompson was disposed of in accordance with an order of the Council, instructing the Secretary-Treasurer to present Mrs. C. A. Thompson with this amount in appreciation of service rendered to the Association by Dr. Thompson. The account of Oltha Shelton has been paid in full.

In company with Dr. L. S. Willour, Secretary-Treasurer, I have examined the following investments which are kept in a safe-keeping deposit box in the First National Bank, McAlester, Oklahoma, said box being in the name of the Oklahoma State Medical Association:

General Fund:

Fourth 4¼ per cent Liberty Loan Bonds of 1933-38, Coupon form:

Number	Amount
G02629577	$1000.00
A02629568	1000.00
B02629572	1000.00
C02629573	1000.00
D02629574	1000.00
F02629575	1000.00
F02629576	1000.00
Total Par Bonds	$7000.00

Medical Defense Fund:

U. S. Treasury Bonds of 1943-45, 4¼-3¼ per cent, Coupon form:

Number	Amount
878J	$1000.00
879K	1000.00
880L	1000.00
Total Par Bonds	$3000.00

October 15, 1934, and all subsequent coupons were found to be attached to all of the above bonds in both accounts. I found that all coupons clipped from these bonds have been properly accounted for in their respective accounts.

The books are kept on an actual cash receipts and disbursements basis and for that reason three items accrued, but not yet due, have not been included in this aduit. The accounts are:

Hoffman-Speed Printing Co	$445.59
Dr. L. S. Willour, Sec'y-Treas., April salary	200.00
Oltha Shelton, Ass't Sec'y, April salary	125.00

Upon investigation and consultation with the Secretary-Treasurer I am convinced that there are no bills or outstanding liabilities due, unpaid.

Under Cash Receipts and Disbursement schedule, General Fund, is an item advance—Post Graduate Extension Fund paid $341.89, and under Cash Receipts and Disbursements, Post Graduate Extension Fund, is an item advance—by Oklahoma State Medical Association, $218.00. The difference of $123.89 between these two items was paid direct before the establishment of the Post Graduate Extension Fund account.

There is attached hereto and made a part of this report a schedule of Accounts Receivable, from advertising, due the Association as of April 30, 1934, totaling $705.50, which are not included in this balance sheet of assets. As of October 2, 1933, Accounts Receivable from advertising were $1512.50, whereas of April 30, 1934, as per the attached schedule, this amount has been reduced to $705.50.

I hereby respectfully submit the foregoing audit and report for your information.

J. K. PEMBERTON,
Auditor.

BALANCE SHEET APRIL 30, 1934,

Oklahoma State Medical Association, Dr. L. S. Willour Secretary-Treasurer, McAlester, Oklahoma.

Assets

Current Assets:		
First National Bank, McAlester, Oklahoma—		
General Fund	1,801.82	
Medical Defense Fund	1,542.11	$3,343.93
Investments—U. S. Government Bonds:		
General Fund (Par value)	$7,000.00	
Medical Defense Fund (Par value)	3,000.00	10,000.00
		$13,343.93

Liabilities

Excess of Assets Over Liabilities:		
Balance October 2, 1933	$9,407.39	
Less: Advance during prior period to Dr. C. A. Thompson—ordered donated to Mrs. C. A. Thompson	199.54	$9,207.85
Add: Excess of Income over Expenditures—		
General Fund	2,636.64	
Medical Defense Fund	1,499.44	4,136.08
		13,343.93
		$13,343.93

CASH RECEIPTS AND DISBURSEMENTS

October 3, 1933, to April 30, 1934, Oklahoma State Medical Association, Dr. L. S. Willour, Secretary-Treasurer, McAlester, Oklahoma.

General Fund:		
Balance		$1,168.28
Receipts		
Advertising	$3,701.94	
Membership	4,428.00	
Interest Reecived on Government Bonds	297.50	
Total Receipts		$8,427.44
Total Cash to Account for		$9,595.72

Disbursements

Dr. L. S. Willour, salary, 5 23/30 months at $200.00		$1,155.28
Oltha Shelton, salary, 6 months at $125.00	750.00	
Xmas bonus	10.00	
	760.00	
Less: Re-payment of advance during prior period	369.75	390.25
Extra Office Salaries		25.00
Printing Journal		3,145.90
Expense Annual Meeting		28.35
Council and Delegate Expense		192.90
Postage		133.16
Printing, Stationery, and Office Supplies		67.53
Rent		105.00
Treasurer's Bond and Audit		81.25
Telephone and Telegraph		59.49
Press Clipping Bureau Service		18.00
U. S. Check Tax		2.20
Miscellaneous Expense		47.70
Advance—Post Graduate Extension Fund		341.89
Notes Payable—Commercial National Bank, paid		2,000.00
Total Disbursements		$7,793.90
Balance on hand April 30, 1934		$1,801.82
Medical Defense Fund:		
Balance October 2, 1933		$ 42.67

Receipts

Dues Collected	$1,472.00	
Interest Received—Gov't Bonds	127.50	
Transferred from General Fund	100.00	1,699.50
Total Cash to Account for		$1,742.17

Disbursements

Re-payment to General Fund	100.00	
Medical Defense Ward & Clinton	100.00	
U. S. Check Tax	.06	
Total Disbursements		200.06
Balance April 30, 1934		$1,542.11

POST GRADUATE EXTENSION FUND

Balance October 2, 1933 — None

Receipts

Fees—Univ. of Okla.	706.87	
Fees Collected	119.25	826.12
Advance by Okla. Medical Ass'n		218.00
Total Cash to Account for		1,044.12

Disbursements

Faculty	$	553.54
Salaries—Pryor Carson		300.00
Stationery and Printing		13.25
Refund on Course		11.25
Expenses of Pryor Carson		141.73
Refund—to Okla. Med. Ass'n		24.11
U. S. Check Tax		.24
Total Disbursements		1,044.12
Balance on hand April 30, 1934		None

CASH ON DEPOSIT

April 30, 1934. Oklahoma State Medical Association, Dr. L. S. Willour, Secretary-Treasurer, McAlester, Oklahoma.

First National Bank, McAlester, Oklahoma:

General Fund:

Balance as per records			$1,801.82
Add: Outstanding Checks:	Number	Amount	
	3715	4.00	
	3574	1.00	5.00
Balance as per Bank Statement and Verification Letter			$1,806.82

NB: The above outstanding checks were issued drawn on the Commercial National Bank, and have been ordered changed to read First National Bank, McAlester, Oklahoma, when and if presented to the original drawee bank.

Medical Defense Fund:

Balance as per records		$ 1,542.11
Add: Outstanding Checks		None
Balance as per Bank Statement and Verification Letter		$ 1,542.11

Post Graduate Fund:

Balance as per records			None
Add: Outstanding Checks:	Number	Amount	
	13	47.58	47.58
Balance as per Bank Statement and Verification Letter			$ 47.58

INCOME AND EXPENDITURES

For Period October 2, 1933, to April 30, 1934. Oklahoma State Medical Association, Dr. L. S. Willour, Secretary-Treasurer, McAlester, Oklahoma.

General Fund:

Income

Advertising	$3,701.94	
Membership Dues	4,428.00	
Interest Received—Gov't Bonds	297.50	
Total Income		8,427.44

Expenditures

Salaries:		
Secretary	$1,155.28	
Ass't to Secretary	760.00	
Extra Office Help	25.00	1,940.28
Printing of Journal	3,145.00	
Less: September Account set up in prior period	410.52	2,735.38
Expense Annual Meeting		28.35
Council and Delegate Expense		192.90
Rent		105.00
Postage		133.16
Treasurer's Bond and Audit		81.25
Printing, Stationery and Office Supplies		67.53
Telephone and Telegraph		59.49
Press Clipping Bureau Service		18.00
U. S. Check Tax		2.20
Miscellaneous Expense		47.70

Advance—Post Graduate Extension Work—Net	341.89	
Prepaid Interest (absorbed this period)	37.67	
Total Expenditures		5,790.80
Excess of Income over Expenditures		2,636.64

Medical Defense Fund:

Income

Dues	1,472.00	
Income Received—Gov't Bonds	127.50	
Transferred from General Fund	100.00	
Total Income		1,699.50

Expenditures

Re-payment to General Fund	100.00	
Defense—Clinton & Ward	100.00	
U. S. Check Tax	.06	
Total Expenditures		200.06
Excess of Income over Expenditures		1,499.44

The foregoing statement and audit is submitted as my report from October 2, 1933, to April 30, 1934.

L. S. WILLOUR,
Secretary-Treasurer-Editor.

DIVIDED DOSES OF TYPHOID VACCINE IN FEVER THERAPY OF NEUROSYPHILIS

J. R. Driver and Henry C. Shaw, Cleveland (Journal A. M. A., Dec. 23, 1933), administered intravenously fresh commercial typhoid vaccine, containing 1,000,000,000 organisms per cubic centimeter, in the treatment of nineteen patients who were suffering from various types of neurosyphilis and two from resistant syphilis associated with interstitial keratitis and iritis. To 1 cc. of the vaccine they added 9 cc. of physiologic solution of sodium chloride. The diluted vaccine is kept in an icebox and can be used throughout the course of treatment. Treatment is given on alternate days. It can be given on successive days if the temperature has returned to normal, if the reactions are well sustained and if there are no other contraindications. Temperatures are taken rectally every half hour until the temperature has risen to 104 F. and then every fifteen minutes until it falls to 104 F. again. Thereafter, the temperature is recorded hourly until normal. The use of antipyretics during the course of the treatment may greatly diminish the fever reactions. The first dose is given preferably in the morning. Within from thirty minutes to two hours the patient usually experiences a chill lasting for a few minutes and followed by a rise in temperature. The second dose is then given after the rise is well established, i. e., 100 F. or higher. The interval between doses should be not less than two hours. From three to six hours is equally satisfactory provided the temperature has not dropped to near normal by this time. In many instances the fastigium lasts for only a few minutes, so that unless the temperatures are taken frequently the peak cannot be recorded. A course of treatment may consist of any number of injections—as many as from ten to sixteen have been given. Subsequent courses may be given with equally satisfactory results after an interval of weeks or months. The authors state that the divided dose method is an excellent substitute for malaria treatment and brings satisfactory fever therapy within the reach of a still larger group of patients suffering from neurosyphilis. Several courses of treatment can be given without the establishment of a permanent immunity, and chemotherapy can be combined with it if desired. The higher temperatures made possible by this method clearly demonstrate the advantage to be gained over the older methods of producing fever by the injection of typhoid vaccine.

SKELETAL TRACTION IN TREATMENT OF FRACTURES OF SHAFT OF TIBIA AND FIBULA

In fractures of the shaft of the tibia and the fibula, W. K. West, Oklahoma City (Journal A. M. A., Dec. 23, 1933), has used the Kirschner wire technic in the following manner: 1. In cases in which weight traction is used in conjunction with the Braun frame, as described by Boehler, the Kirschner wire is introduced through the middle of the os calcis; for example, cases coming in several days after injury; also spiral or badly comminuted fractures. 2. In cases in which the wire is introduced through the os calcis and reduction carried out immediately, followed by the use of the long leg plaster bandage with the knee flexed. The wire and bow are incorporated in the cast. These cases are usually those in which the fractures are low in the tibia and fibula. A spinal or general anesthetic is used when a manual reduction is done at the time the wire is introduced. 3. In cases in which the fracture is in the middle or upper third. Two wires are placed, one just below the knee and the other just above the ankle. A cast is applied to the fracture site above and below; then, with traction applied, the two casts are united by connecting plaster.

GESTATIONAL POLYNEURITIS

According to E. D. Plass, Iowa City, and W. F. Mengert, Philadelphia (Journal A. M. A., Dec. 23, 1933), gestational polyneuritis commonly follows or develops concurrently with hyperemesis gravidarum. There is a tendency to explain the symptoms on the basis of hysteria unless a neurologic examination is made, since there are usually no evidences of visceral disease. The cardinal observations include: (1) general weakness, more marked in the legs and in the exterior muscles; (2) sensory disturbances; (3) tachycardia for which no organic explanation can be elicited; (4) marked diminution or absence of the various tendon reflexes, and (5) a psychosis of the Korsakoff type. The etiology is unknown, but the disease is variously explained as due to a toxin developed by the conceptus or to a deficiency in vitamin B intake. Pathologic changes in the viscera are scarcely significant, but degenerative changes in the peripheral nerves and spinal cord and petechial hemorrhages in the cerebrum offer an explanation for the neurologic manifestations. The prognosis is poor. If the patient survives the first two weeks, slow recovery usually ensues, but it may never be complete. Treatment is empirical and none too successful. Prophylaxis on the basis of high vitamin feeding offers the best hope for improving treatment. Therapeutic abortion is well advised but the results are frequently disappointing.

ABSTRACTS • REVIEWS • COMMENTS AND CORRESPONDENCE

EYE, EAR, NOSE and THROAT

Edited by Marvin D. Henley, M.D.
911 Medical Arts Bldg., Tulsa

Eye Pad for Making Hot Applications. John N. Evans, M. D., Brooklyn. Archives of Ophthalmology, February, 1934.

Investigation among ophthalmologists from various localities brought out the fact that in the treatment of eyes the usual method of hot applications, i. e., hot water with cotton pledgets or the electric pad has proven unsatisfactory.

After making a number of bakelite and hard rubber patterns and trying them on fifty patients a pad was obtained which met practically all the requirements. The general shape is triangular with rounded corners, is applicable to either eye with very little pressure and yet is close to the orbital rim. With this as a pattern a rubber bag was made, which contains the heating element and the surface of application is formed of a metal plate, which is bound by a heavy fabric. The "thermic mixture" is permanently sealed in the pad and if by accident any of the mixture escapes it is non-corrosive and is only slightly irritating when tested on rabbits' eyes. Twenty-four pads were placed, as an experiment, in the Brooklyn Eye and Ear Hospital and met with general approval. Each pad was used approximately six hundred hours.

Pictures and detailed diagrams are given showing the results of many experiments. Although not perfected it has many advantages over the old methods. Evans says in his notes that "this contribution is primarily intended as a report on what appears to be a practical instrument, but only so far as its physical characteristics are concerned."

Recent Advances in the Physiology of Hearing. W. J. McNally, M. D., Montreal. Archives of Otolaryngology, February, 1934.

Do fish hear? The history of this question is ably reviewed and the technique given of experiments performed by various men who conclude that the average fish can differentiate tones within an octave of each other. A few can make much finer distinctions, however none of the fish have been able to differentiate between the intensities of the same tone and as a rule the memory for these tones is good. If it is a fact that some fish (catfish) do make noises it follows that they must have a mechanism for perceiving sound. Sections of the labyrinth show this to be true. Ablation operations were performed on the labyrinth of the Phoxinus laevis or common minow to determine what part had to do with receiving the sound stimuli. If the utricle and canals were removed it was found that the equilibrium was disturbed but that the sound perception was not impaired. If the otolith was removed from the saccule and lagena there was no vestibular disturbance but response to higher tones was lost. The inference deduced was that the saccule and lagena had to do with the reception of the sound vibrations. Experiments on fish, frogs and rabbits demonstrate that the saccule has no vestibular functions. The saccule in pigeons may have to do with compensatory rotatory movements of the eyes.

In man there are two most common theories in regard to hearing, the Telephone Theory and the Resonance Theory. The Resonance Theory is the more generally accepted of the two. When a sound wave is received by the ear a sector of the basilar membrane corresponding to the frequency of vibration of the sound is set in sympathetic vibration and the simple nerve impluses are sent to the brain. Ablation experiments were carried out on a dog's cortex in an attempt to arrive at some idea of the location of an auditory center. These seemed to show that the anterior part of the temporal lobe is chiefly concerned with the high tones but that other parts of the cortex, by practice, acquire the ability to also interpret these tones. It would seem that the nucleus of the acoustic analyzer is situated in the temporal lobe. Bone conduction tests should be carried out in a silence room to eliminate the noise that has a varying effect and then they really become a cochlear function test rather than a test for the function of the middle ear. The absolute bone conduction test or the silence test of Schwabach is the most accurate and important since it gives the amount of cochlear impairment. It was formerly supposed that disease of the middle ear produced a greater loss of hearing for the lower tones but later tests with the audiometer and monochord on about eighty children who were patients in the Johns Hopkins Hospital showed that suppuration of the middle ear caused a loss of hearing by air conduction of the higher tones rather than the lower ones. In closing a metabolism test of some kind is suggested to detect beginning otosclerosis since our common tests of hearing are ineffective and impaired hearing may be a late manifestation of the disease.

Surgery and Dietetic Treatment In Its Relation To Nasal Pathology. Dr. E. V. Ullmann, Portland, Oregon. The Laryngoscope, February, 1934.

Among Ullmann's contributions to the literature is his recent book entitled "Diet in Sinus Infection and Colds." A dietetic regime is not advocated as a cure-all for every sinus infection but when intelligently used in the proper balance will give more satisfactory results to both the physician and the patient than surgery in a certain type of cases. In the previous literature there is no clear classification of the nasal pathology for medical and surgical treatment. This differentiation is emphasized in this monograph. In hypertrophic rhinitis complications involving the eye and the brain, acute empyema of two or more sinuses and every unilocular sinus suppuration surgery must be a primary consideration if the patient is to be cured. Those conditions mentioned in which medical treatment is primary are: pansinusitis chronica suppurativa, rhinopharyngitis chronica, congestive rhinitis with headache, vasomotor rhinitis, recurrent coryza and dry deafness in its various forms as far as influenced by nasal irritations. Congestive rhinitis with headache is probably that

which has in other publications been referred to as Sluder's syndrome. The most favorable results in the medicinal (diet) treatment are obtained in the patient with recurrent coryza. Allergic polyps and ozena are placed midway in the position between primary medical and primary surgical treatment because each of these cases must be studied and method of treatment individually decided. Whether surgery is resorted to or not it has been found that a proper diet is beneficial in every such case. The type of patient mentioned as suitable for primary medicinal treatment usually shows a tendency to headache, constipation, heart-burn, free perspiration with an offensive odor, bad breath, inclination to irritations of the skin and a highly acid urine. A base forming diet with restriction of starches and meat and an increase of lacto-vegetablic food with detailed instructions for the correct way of preparing vegetables without the loss of the minerals will correct the acidotic tendency. The calcium deficiency of the average American diet is the next important consideration. Since 1911 various authorities have called attention to this fact from time to time. One man reports that of 4,000 unselected cases in New York hospitals a careful check showed that only two patients had had a normal calcium intake. European research shows a definite relation in the retention, assimilation and elimination of calcium to that of magnesium, potassium and more especially that of sodium. On a number of normal and sick people of the post-war period in Europe experiments were carried out which consisted of examination of their feces and urine to determine the amount of calcium and magnesium eliminated with their ordinary diet; then the sodium chloride was increased in their daily diet from 5 gms. to 30 gms. It was found that an increase of the sodium atom in the diet increased the amount of calcium eliminated. The conclusion drawn is that the assimilation of calcium is greatly handicapped if large amounts of sodium are taken and that no application of calcium can be expected to be successful, whether given internally, intramuscularly or intravenously, unless the mineral metabolism, particularly that of the sodium chloride, is closely watched. Six cases are reported of patients, ages six to sixty-eight, which show the characteristic influence of dietetic treatment.

Erysipelas and the Haemolytic Streptococcus in Relation To Otolaryngology. Dan McKenzie, London. The Journal of Laryngology and Otology, February, 1934.

Is all well with our aseptic methods is the question asked by the writer. During five years in the Central London Throat and Ear Hospital there were twenty-eight cases of erysipelas, twenty-seven of which were post-operative. The infection followed a mastoid operation in nineteen cases, a Caldwell-Luc in three cases and one each in a frontal sinus, a cervical adenitis, an epithelioma of the soft palate, a tonsillectomy with post-nosal curettage and an epithelioma of the maxillary antrum. Common erysipelas is usually found in the area of the head and the above data shows that this post-operative complication occurs with greatest frequency following mastoid operations. Erysipelas is commonly spread by direct or indirect contact but isolated cases are found which must be attributed to an autogenous origin. The offending organism is streptococcus haemolyticus which appears to have a special facility in adapting the refinements of its living chemistry to the particular host in which it finds itself. An illustrative instance is cited in which the father of a family had erysipelas of the face at the same time his daughter had septic tonsillitis and his wife a short time later developed a throat infection with subsequent rheumatism and toxic psychosis.

Some authorities believe that the toxigenicity of the germ is increased as it passes from person to person until it reaches the erythrogenic phase and then an acute attack of scarlet fever or erysipelas is precipitated. This theory would account for the so-called "surgical" scarlet fever which appears apparently without any reaction. Erysipelas when found in the ward of a hospital is now considered to originate from another case of erysipelas, from a streptococcal infection (not erysipelas) in another person or from a streptococcal infection (not erysipelas) in the patient himself. The question raised is whether the latent streptococci present in the patient become a virulent infection due to some change of chemistry in the patient or are they stimulated to activity by the virulent streptococci from another patient or are the normally present streptococci replaced by a more virulent type or strain of the organism. Acute otitis media, acute nasal infections and acute pharyngotonsillitis are the forerunners of most the erysipelas and scarlet fever relative to otolaryngology. Omitting infancy and old age the mortality of erysipelas is about five per cent. Erysipelas following surgery is more hazardous than the spontaneous variety and a clean operative wound (incision) is more susceptible to this type of infection than one which is already putrefying. Erysipelatous meningitis is rare, only nine cases having been recorded. A streptococcal tonsillitis within ten days following a submucous resection is indicative of an infected nasal wound. Treatment for erysipelas is 20 cc. of anti-streptococcal (scarlet) serum daily for three or four days. The intravenous route has no advantages and blood transfusion is not recommended.

To find a means of preventing the spread of this infectious disease is obviously a duty of the otolaryngologist since the habitat of the streptococcus haemolyticus is most frequently the ear, nose and throat. The organism normally found in the throat is non-pathogenic; the greatest peril arises from the exogenous streptococcus. The average hospital of today is above criticism in the operating room routine but there is room for improvement in the disposition of the patient after he leaves surgery. Sore throats in all employees, nurses and staff members should be promptly reported and receive due consideration.

The author advocates as small an incision as possible in mastoid infections which are very virulent in order to attempt to protect the clean tissues through which the opening is made and to lessen the pyrexia and toxemia of the first week, post-operative, as much as possible. He compares this to the procedure followed in an operative frontal sinus which is limited to simple drainage in the acute stage. In mastoid operations in scarlet fever the infection of the healthy tissues is much more frequent and severe than the ordinary cases of mastoiditis. Three types of mastoid infections are mentioned, the first two of which should receive special care in limiting the spread of infection: (1) scarlet fever, in which wound-infection is nearly always severe and prolonged; (2) fulminating non-scarlet fever, in which high temperature and severe pain precede the opening of the tympanic membrane and wound-infection tends to be of the erysipelas type and (3) mild non-scarlet fever, in which wound-infection is generally but not invariably, trifling. This is an original manuscript and contains the results of much detailed observation.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D
717 North Robinson Street, Oklahoma City.

Oesteomyelitis des Tibia und des Kniegelenk." (Osteomyelitis of Tibia; Involving Knee Joint.) Dr. Kurt L. Muller. Wiener Klinische Wochenschrift. January 26, 1934,

Sixteen cases of Osteomyelitis (Brodies abscess type) proximal to the knee joint are reviewed. One-third gave a history of trauma, two-thirds had involvement of the knee joint with 20 per cent mortality. The author points out that when the condition is acute, if it occurs before the fusion of the epiphysis, a long latent inactive period ensues. This period diminishes as the epiphysis approaches the state of fusion. The author concludes that even though there is free vascular communication between the cartilagenous and bony tissues, as demonstrated by Schulte, a definite and effective barrier exists between the original diaphyseal focus and the knee joint.

In the absence of prominent symptoms he gives ammonium chloride one grain per 10 kilo of weight daily, for the purpose of producing local acidification and arresting active progress. If acute exacerbations occur, the usual extensive excision of the abscessed area is done, bearing in mind that as the epiphyseal line approaches fusion the chances of extension to the knee joint are diminished.

The knee joint may be involved in one of two ways: (1) A relatively dry ankylosing or penetrating synovitis of a destructive nature. (2) A seropurulent periarthritis, with marked constitutional symptoms. The mechanics of extension into the joint is either by perforation through the cartilage into the joint or by indirect periarthritis extension in the form of a capsular phlegmon.

The prognosis of knee joint involvement is very unfavorable. Wide drainage of the knee and resection are indicated when the following conditions exist:

1. When from the general view point amputation is not necessary.

2. When there is no particular and lymphatic abscess.

3. When the tibia or femur alone is involved.

4. If, after resection, there remains at least one unaffected condyle.

Of four cases in which the joint was radically resected, two later were amputated. The other cases recovered in three months.

(Translated by Paul H. Rempel, Senior Medical Student, Oklahoma University School of Medicine.)

Spontaneous Dislocation of the Hip in Childhood. P. N. Ray. British J. Surg., XXI, 523, January, 1934.

This is a case report of a Bengali child of six, who, six months previously, had had a severe attack of bacillary dystentery. Dysenteric synovitis in many joints occurred during the convalescence, but after six weeks all the joints except the right hip joint quieted down. Clinical and x-ray examinations showed a posterior dislocation with the acetabulum filled with a bony mass.

A dislocation was reduced by the Lorenz method and a plaster cast was applied. The first plaster was removed in eight weeks and the head was found to be in place. Plaster fixation was continued for a total of four months, after which walking calipers were applied. At the end of a year the patient walked without a limp and there was a good range of motion.

It is believed that the spontaneous dislocation was caused by the excessive muscular atrophy about the hip joint, possibly aided by the over-distension of the joint cavity.

Two Cases of Ossification in the Internal Semilunar Cartilage. H. Jackson Burrows. British J. Surg., XXI, 404, January, 1934.

Two case reports are given of young adults who, both by x-ray and at operation, showed calcification of the internal semilunar cartilage. From the histological studies it is believed that the progress of bone formation is: (1) Hyperplasia of the fibrocartilage, with deposition of calcium, a multiplication and enlargement of the cells, and an increase of the proportion of matrix to fibers; (2) replacement of areas of cartilage by loose, vascular, connective tissue; (3) formation of true bone in the walls of the cavities so formed.

Inasmuch as trauma caused both conditions, it is believed that the bone in each case was metaplastic. The bone resembled that formed by the usual ossification of hyaline cartilage.

Operative Lengthening of the Femur. Vittorio Putti. Surg. Gynec. Obstet., LVIII, 318, February 15, 1934.

The writer has used piano-wire traction and countertraction in eleven cases for lengthening the femur, both in children and adults. The greatest difficulty is encountered in those cases of some chronicity "in reality amounting to a true muscle-lengthening operation by slow skeletal traction." The only complication has been temporary "toe drop" in one case.

During the traction period, the patient is supine with semiflexion of the hip and knee. The average traction weight is thirty to forty pounds. The time of lengthening is about twenty days, followed by four months in plaster and several months of limited support and physical therapy.

The technique of the method is described by Dr. Carlo Scuderi.

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from LeRoy Long Clinic
714 Medical Arts Bldg., Oklahoma City

Clinical Recognition and Surgical Treatment of Parathyroidism. Max Ballin, M.D. The American Journal of Surgery, page 36, April, 1934.

The author prefers the term parathyroidism to hyperparathyroidism as indicating increased function of the parathyroid gland.

Parathyroidism, the stimulated function of the parathyroid gland, has just the opposite symptoms of tetany. Whereas in tetany there is a low blood serum calcium and a high serum phosphorus, great irritability of the muscles and fretty temperament and, in fatal cases, the spasticity of the muscles leading to death by suffocation from laryngeal or diaphragmatic muscle spasm, in parathyroidism we have a high serum calcium, in extreme cases up to 24 milograms per 100

c.c., low phosphorus, below 1 milogram per 100 cc., the muscles are sluggish and very weak.

The symptoms of parathyroidism may be grouped under four headings. First, skeletal symptoms. The surplus or parathormone will take calcium from the bones. In the x-ray such bones will appear thin, washed out, because the shadow-giving calcium is diminished, but not only a general calcium deficiency will be shown in the skeleton, the calcium will fall out in small areas replacing the bone tissue by fibrous and small cystic tissue (osteitis fibrosa cystica). These tumors quite often resemble giant cell tumors of the bone. Of this much we are certain. The parathyroid secretion in exaggerated quantity in the blood will cause changes in the skeleton characterized by decalcification, formation of fibrocystic tissue, cysts and these osteoclastomas or brown tumors. It is obvious that such changes in the skeleton will interfere with their weight bearing ability. The long bones will become bent, will fracture easily in the decalcified areas, the neck of the femurs will slant downward instead of maintaining the normal horizontal position and the vertebral bodies will become compressed, the pelvis will be changed in outline by the sacrum being driven into the pelvic cavity and the decalcification, so-called osteomalacias, will be visible in the bones of the skull and wherever there is bone tissue.

Second, changes in the blood chemistry. Excess of parathorome in the blood liberates calcium and phosphorus from the bones, hence the increased calcium and lessened phosphorus content of the blood. Hypercalcemia is usually present but at times temporarily absent. Much more constant is the increased secretion of calcium through the urine. For the physician and the occasional observer, it is important to know that one normal reading of serum calcium does not speak against parathyroidism just as one normal basal metabolic test would not speak against thyroidism.

Third, muscular weakness. If a patient is given calcium intravenously his muscles become relaxed; in fact, too rapid injection of calcium will cause faintness and severe muscular weakness. This same condition occurs in parathyroidism. Whereas in tetany the muscle is spastic, tetanic, in parathyroidism the muscles are so weak that the legs give way at times and the patient falls.

Fourth, metastatic calcium deposits. It is easily understood that the unusually high calcium content of the blood serum during parathyroidism will bring about the formation of deposits of calcium wherever there is a suitable place.

Secondary calcium deposits due to parathyroidal hypercalcemia are seen in the prevertebral ligaments, in the spleen, intestinal mucosa and especially in the kidneys.

The diagnosis of parathyroidism is, therefore, founded on the clinical history of pain in the bones, especially otherwise unexplained back or leg ache, the patient becoming stooped, bowlegged, shorter, having fractures, muscular weakness and hypotonia, the legs giving away, the roentgenologic changes seen in the skeleton, the chemical changes in the calcium and phosphorus contents of the blood serum and in the secretions.

In the differential diagnosis plain osteomalacias from faulty nutrition, avitaminosis, rickets in children, metastatic malignancy, carcinoma and myeloma have to be guarded against to avoid mistakes. A few cases have been reported even in the well to do, who, usually for the sake of reducing their weight, lived on tea or some other unbalanced diet and decalcified their bones.

A properly diagnosed case of parathyroidism should be operated on for the removal of parathyroid adenoma or one or two hyperplastic parathyroids. If the diagnosis is established, operation should be performed before great deformities of the bones, changes in the kidneys and etc., render the outlook as to complete recovery doubtful.

The operation. Great care should be exercised to not remove too much parthyroid tissue and to not remove normal parathyroids when the condition is actually due to an adenoma.

—LeRoy D. Long.

Resorbable Metallic Material in Surgery of the Bones (Le Materiel Metallique Resorbable En Chirurgie Osseuse). By Jean Vergrugge, Antwerp, La Presse Medicale, March 21, 1934.

After indicating the well known difficulties often following the use of ordinary, non-absorbable metallic material in surgery of the bones, the author relates his experience in 21 cases where Dow Metal was employed. It appears that this metal is sometimes called "elektron." It is an alloy of metallic magnesium 92% and aluminum 8%. The metal was in the form of screws, bolts or nails. Most of the cases were troublesome fractures of bones in direct relation with shoulder, elbow, wrist, knee, ankle.

A striking phenomenon is the entire absence of pain after operation in all cases, without exception. It is suggested that this is due to the anesthetic properties of magnesium.

A second striking phenomenon is an increased local temperature of about 1 degree centigrade beginning the day following operation and lasting, more or less, for about two weeks. It is attributed to the chemical changes associated with the presence of the metal in the bones. At the same time the general temperature is usually normal.

A third phenomenon is the radiographic evidence of gas about the metal soon after operation. The author believes this results from the action of the combined carbonic acid of the blood upon the magnesium, hydrogen gas being released. It is probably through this same chemical process that the magnesium is finally dissolved, but the definite chemistry of the process is not yet determined.

The rate of resorption depends upon the site, the size of the metallic mass, and individual characteristics and pecularities. It appears, however, that the resoprtion is sufficiently slow to permit the formation of a good callus before fixation is modified.

—LeRoy Long.

Lead Poisoning From a Leaden Ball (Intoxication Saturnine Par Une Balle de Plomb). Genival Londres, Rio de Janeiro, La Presse Medicale, March 21, 1934.

This article is of interest because it is generally believed that missiles of lead lodged in the tissues become encysted, if there is no infection, and are thereafter practically harmless as far as intoxication is concerned. This report shows that there are exceptions.

A man of 20 was wounded in the left knee by a bullet discharged from a small pistol. The ball lodged in the bone on the side of the joint.

About two months later there were violent paroxysmal pains in abdomen, persisting for several weeks.

Following this there were pains in the arms, followed by weakness, so that patient was soon unable to feed himself.

The injury was received November 2, 1931. He entered hospital November 26, 1932. At that time there was a bilateral radial (musculo-spiral) paralysis with pronounced anemia, stippled cells, lead line on gums, slight icterus (un leger subictere), a slight arterial hypertension. The clinical picture of chronic lead poisoning was complete.

Patient was kept under observation for a month during which time efforts were made to find some cause, other than the lodged bullet, of his symptoms, but, there being no improvement, extraction of the bullet was advised.

At operation the bullet was found in a small pocket in the bone just to one side of joint, this pocket being bathed by synovial fluid.

Improvement was manifested two weeks after operation, and continued to be progressive and satisfactory.

An analysis of the bullet by Dr. J. Bruno-Lobo of the geologic service showed that, in addition to lead, there were small quantities of antimony silver, arsenic, and traces of thallium.

—LeRoy Long.

Interposition Operation for Procidentia Uteri With a Report of 501 Cases. A. J. Rongy, M.D., A. Tamis, M.D., and H. Gordon, M.D., New York, N. Y. American Journal of Obstetrics and Gynecology, March, 1934, Page 428.

These authors are reporting 501 cases of uterine prolapse treated by the interposition operation with very good results.

They briefly review the historical and anatomical considerations in operations for prolapsus of the uterus.

They then discuss the various objections which have been raised against interposition operation which are as follows: (1) That it fixes the uterus in extreme anteflexed position; (2) that it creates an unnatural position for the bladder and therefore causes permanent vesical symptoms; (3) that it is not suitable as an operation of election during the childbearing period; (4) that it is technically difficult to perform and therefore a dangerous procedure in the hands of the inexperienced operator; (5) that there is too great distortion of the anatomy of the soft parts of the pelvis; (6) that patients approaching the menopause no longer require the uterus, and it is just as well to remove an offending organ.

They admit that theoretically these seem to be important objections, but in their practice they have been overcome and with careful selection and proper technique, the majority having been relieved. They report that they have had very little bladder trouble afterward, and lay great stress upon the fact that function of menstruation is preserved. They feel that this operation is the one of choice in the largest number of patients, and that the incidence of cure is greater by this procedure than any other method as yet devised. They also point out an aspect not generally considered: "Should the prolapse recur, the condition is not so hopeless as when a recurrence takes place subsequent to a Kocher or Mayo operation."

The technique of the operation is then carefully described, giving consideration to various circumstances which arise in different patients such as the size and duration of the procidentia, fibroids and procidentia, the large and congested uterus, and the question of sterilization in young women. They also discuss the general and local post-operative care.

They feel that this operation should be employed not only in those patients approaching or past the menopause, but in women of the childbearing period, who have had two or more children and who desire to be sterilized. They admit that childbearing following the interposition operation is contraindicated, though pregnancies have occurred afterwards in seven of their cases, with normal or instrumental delivery in four of them. They feel that a gynecologist considering the problem from a purely medical standpoint has no reason to refuse to perform sterilization, and that this position has helped to widen the scope of the interposition operation.

They give as the criteria for the usefulness of any surgical procedure the following: (1) The preservation of the organs involved; (2) the anatomical correction of the dislocated organs; (3) the permanency of the operation; (4) the preservation of function.

They contend that after a careful analysis of the interposition operation they are soon convinced that it meets as closely as possible these criteria.

Comment: The interposition operation is an excellent procedure in a certain group of cases, but it should by no means be used as a routine procedure. It should not be employed during the childbearing period, unless sterilization is performed, and most of us cannot so readily arrive at a justification for this additional procedure as have these authors. The cases of complete procidentia past the menopause with a small senile uterus are much better handled by a vaginal hysterectomy and repair such as employed by the Mayo operation with its modification. These authors are so enthusistic about this procedure that they are inclined to do myomectomies and partial hysterectomies in connection with it in cases in which it would seem rather unwise to do so.

In the proper hands, with the proper technic, in women at or past the menopause, with no associated pathology, with an incomplete procidentia of the cervix, and an average size uterus, the interposition procedure gives excellent results. The incidence of such cases, however, is but a small group of the total number of cases with procidentia.

—Wendell Long.

Dysmenorrhea Relieved by Resection of Presacral Sympathetic Nerves. Alfred W. Adson, M. D., and James C. Masson, M.D., Rochester, Minn. Journal A. M. A., March 31, 1934, Volume 102, No. 13, Page 986.

These authors are reporting 6 cases of dysmenorrhea relieved by resection of the presacral sympathetic nerves.

They have rather briefly and concisely reviewed the historical data, the antomy involved, and the physiology of the sympathetic nerves in relation to menstruation. They have divided dysmenorrheas into two groups: The true functional type without organic lesions, and those which are complicated by gynecological lesions. In the latter type the surgeon explores the pelvis and corrects the pathological condition. If this is not sufficient, in his mind, to explain the pain, resection of the presacral nerves is performed as a single operation, or it is combined with the resection of the lumbar trunk or with periarterial sympathectomy of the ovarian artery.

They report their experience in one case where they used the periarterial sympathectomy to the common

iliac artery, after the advice of Leriche. They became discouraged because of very little relief of pain in this particular case, though they admit that it may have been due to the patient's unstable nervous system rather than to an ineffectual operation, since she complained of many other discomforts.

The case histories of the six cases reported were given in some detail. They are all rather young women and the results have been exceedingly good.

In these cases as in others reported by both American and foreign authors, there has been no disturbance of the menstrual cycle. It is also pointed out that women who have had this procedure performed have become pregnant in a rather normal way afterwards, though the necessary time has not elapsed in this particular series.

In all of these cases reported medical measures have been exhausted before the operation was attempted.

Comment: Since this operation was first devised by Cotte in 1924 there has been displayed considerable interest in it, especially by the continental surgeons. Leriche and his co-workers have done much of the investigation and the original work. They report very excellent results both for the division of the presacral nerves and that procedure combined with periarterial sympathectomy of the iliac arteries.

Dysmenorrhea is one of the very difficult situations which face the medical profession at this time. Division of the presacral nerve (superior hypogastric plexus) offers a very definite field of application. However, it must not be forgotten that cases must be very carefully selected for this procedure, after all reasonable medical attempts at relief have been tried.

—Wendell Long.

Complications Resulting from Pelvic Irradiation For Cancer of the Cervix. Palmer Findley, M.D., Omaha, Nebraska. American Journal of Obstetrics and Gynecology, March, 1934, Page 358.

This author points out that the general recognition of radium as the best present method in the treatment of cancer of the cervix has led to its adoption not only by men aspecially trained in its application but by the general profession as well. Most of the reports as to cures and to complications associated with irradiation therapy come from the men who have been trained and who have had a large experience. Radium is a dangerous weapon in the hands of the novice and the untrained. Dr. Findley stresses the fact that it can work wonders but is also capable of much harm. He feels that the unreported use of this method of treatment by the general profession is probably filled with many unnecessary complications, as well as inadequately treated patients.

He then discusses the complications such as pyometria, parametritis and thrombophlebitis. He also reports the collective mortality percentage as from one to two per cent.

He then discusses at some length cystitis, chronic vaginitis, and proctitis, which arise shortly after irradiation. In this discussion the vesicovaginal and rectovaginal fistulae are considered.

He then considers the question of pelvic irradiation in cases who have a cancer of the cervix and are also pregnant, emphasizing the fact that irradiation in pregnancy is most apt to cause monstrosities of the unborn fetus.

He has reviewed the work of Ward, Pemberton, and Bland in their reports of complications from pelvic irradiation.

Interesting in this direction is the general feeling expressed by all of these men that irradiation is a very dangerous procedure where there is any possibility of the intestines being adherent to the uterus, as in cases who have had previous operations, and cases who have had old pelvic inflammation.

Comment: With the greatest care, there is no question but that complications with adequate radium treatment for cancer of the cervix are inevitable. There is also no question but that radium is a powerful therapeutic agent and must be considered as such, being used only by one who feels that he thoroughly understands the present knowledge available upon the subject of its use in pelvic conditions. If this is not so, it is quite apparent that there will be inadequate and unintelligent radiation treatment, and that there will also be complications which could have been avoided.

—Wendell Long.

REPORT OF EXAMINATIONS FOR LICENSES TO PRACTICE MEDICINE.

Examination held at State Capitol, Oklahoma City, March 13th and 14th, 1934. The following applicants passed:

Name	Year of Birth	Place of Birth	School of Graduation	Year of Graduation	Home Address or Previous Location
Bland, Rozier Earl (Col.)	1903	Milledgeville, Ga.	Meharry Med.	1931	Okla. City
Clark, Anson Luman	1893	Elgin, Ill.	Rush Med. Col.	1929	Okla. City
Gould, Isaac Lawrence	1893	N. Liberta, Iowa	Univ. Iowa	1919	Fairview, Okla.
Hays, Anna Luvern	1902	Cass City, Mich.	Univ. Mich.	1926	Tulsa, Okla.
Jacobs, Raymond Geo.	1904	Monticello, Iowa	Univ. Iowa	1928	Enid, Okla.
Kerr, George E.	1867	Ontario, Canada	Detroit Col. Med.	1894	Chattanooga, Okl.
Kupka, John Francis	1903	Shieldsville, Minn.	Univ. of Tenn.	1932	Haskell, Okla.
McDaniel, Bennie Osborne	1896	Springville, Miss.	Northwest'n Med.	1925	Okla. City
McMurry, James Finley	1902	Ector, Tex.	Vanderbilt	1929	Sentinel, Okla.
Peterson, William Garrett	1905	Wilkinsburg, Pa.	Univ. Pittsburgh	1930	Ada, Okla.
Redwine, Harry Page	1904	ElCampo, Tex.	Univ. of Texas	1931	Butler, Okla.
Mittleman, Harry Albert	1904	Poland	St. Louis Univ.	1932	Stonewall, Okla.
Baker, Alfred Tennyson	1905	Logansport, Ind.	Univ. of Louisville	1931	Durant, Okla.
Driver, Jesse Walter	1898	Helena, Mo.	Rush Med. Col.	1932	Perry, Okla.
Frey, Harry	1890	Rock Island, Ill.	Hahneman M. Col.	1918	Holdenville, Okla.
Ward, Donald Wolpert	1904	Pueblo, Colo.	Univ. of Col.	1931	Boise City, Okla.
Robbins, Emma Eliza	1876	Papillion, Neb.	Univ. of Ill.	1903	Durant, Okla.

EFFECT OF DIURETICS IN DIFFERENT TYPES OF EDEMA

In order to determine the effect of diuretics in different types of edema Melvin W. Binger and Norman M. Keith, Rochester, Minn. (Journal A. M. A., Dec. 23, 1933), used diuretics and controlled the diet and the intake of fluid in 216 patients presenting edema. In 96 per cent the diet was controlled and contained from 40 to 60 Gm. of protein and from 1 to 5 Gr. of sodium chloride daily. The water component of the food ingested was limited to from 800 to 1,400 cc. daily, in all of the cases of glomerulonephritis, lipoid nephrosis, hepatic insufficiency, intra-abdominal malignant conditions, polyserositis, and general edema of indeterminate origin. The same limitation on the water component of the food was applied in 70 per cent of the cases of heart disease and in one of the two cases of myxedema. The intake of extra fluid in the form of water and other beverages was limited to 800 c.c., so that the total intake of fluid amounted to from 1,600 to 2,200 c.c. in 75 per cent of all cases. The average loss of weight varied somewhat in each group studied and was greatest in the cases of myocardial degeneration. Ineffectual results occurred most often among the cases of intra-abdominal malignant conditions. The most constant effect of the theraputic measures employed in this study was the production of marked diuresis in all types of edema. Similar results have been reported by de Takats in acute edema caused by thrombophlebitis. The edema frequently disappeared and the patient's subsequent course was satisfactory. This occurred often in cases of lipoid nephrosis, in the group of cases of indeterminate edema, and in a limited number of cases of myocardial degeneration, cirrhosis of the liver and chronic glomerulonephritis. Other patients, in spite of only temporary decrease in the edema and the necessity of continuous treatment, derived much comfort. In many cases in which there was serious cardiac, renal or hepatic injury, even with subsidence of the edema, the usual progressive course of the disease was not altered. Toxic effects, such as stomatitis, diarrhoea and dermatitis, occurred infrequently. They occurred more often in cases of hepatic insufficiency than in any other single group of cases and usually followed injections of merbaphen. The most frequent toxic effect was definite renal insufficiency which was present in approximately half the cases. Renal insufficiency occurred most frequently in cases of glomerulonephritis and in a considerable number of cases of hepatic disease. In the majority of instances it was a temporary dysfunction, and the value for blood urea fell to the normal concentration and the excretion of phenolsulphonphthalein rose before the patient was dismissed. On the other hand, the renal impairment of 16 per cent of all patients treated was of longer duration and was still present at dismissal. Severe acidosis can be prevented by the careful administration of ammonium chloride or calcium chloride. In the compensated acidosis that so frequently is present after these acid salts, particularly ammonium nitrate, have been taken, mild renal impairment does sometimes occur, but it disappears quickly when the administration of the salt is discontinued. Dehydration resulting from both a low intake of water and a large output of water from continuous diuresis is a possible etiologic factor in the production of this temporary renal insufficiency. In uncomplicated cases of myocardial degeneration, toxic reactions seem less likely to occur than in cases in which there are either renal or hepatic lesions. Organic compounds of mercury produced little evidence of definite toxicity. Mersalyl is the compound of choice. A shift in acid-base equilibrium toward the acid side occurred in all cases in which a sufficient dose of an acid-producing salt was given. A follow-up investigation of the 216 patients of all groups showed that 104 returned one or more times for further observation. The usual reasons for returning were for re-examination or because of recurrence of edema. Two patients returned nine times each. The highest mortality has been among the cases of intra-abdominal malignant disorders with 83 per cent deaths. Of the patients with hepatic insufficiency, 79 per cent died; of those with glomerulonephritis the percentage of deaths was 68, and 64 per cent of the patients with myocardial degeneration died. Only one patient with nephrosis died; in this case, acute septicemia developed following tonsillectomy. Neither of the patients with myxedema, and only two of the patients of the indeterminate group, died.

DILATION OF THE KIDNEY PELVIS AND URETER DURING PREGNANCY AND THE PUERPERIUM: PYELOGRAPHIC STUDY IN NORMAL WOMEN

In order to verify their previous observations and conclusions, Herman L. Kretschmer, N. Sproat Heaney and Eugene A. Ockuly, Chicago (Journal A. M. A., Dec. 23, 1933), undertook to study a series of forty-four cases of intravenous pyelography, expecting that they might find in this series fewer dilatations, since they suspected that possibly over-distention of the ureter and kidney pelvis by the retrograde method might have increased the percentage of dilitations in their first study. They selected only such women as gave normal previous kidney and bladder histories and who were normal as to urinary examinations and obstetric conditions at the time the study of each case was begun. The authors observed that dilatation of ureters and kidney pelvis occurred in 100 per cent of their cases during pregnancy or the puerperium. The striking feature about the dilatation of the ureter during pregnancy is that the dilatation is almost universally above the brim of the pelvis. As a rule, the dilatation is progressive along with pregnancy. There was one exception to this statement, in which case the ureter was normal in advanced pregnancy when earlier it was dilated. Lateral displacement of the ureter, when found early in pregnancy, tends to increase as the pregnancy advances. In none of these cases did pyelitis develop during pregnancy, although marked dilatation and lateral displacement were present. The presentation and the position of the fetus could not be brought into causative relationship with dilatation or displacement.

MEDICINAL TREATMENT OF COMMON COLD

Harold S. Diehl, Minneapolis (Journal A. M. A., Dec. 23, 1933), shows the relative values of various drugs and drug combinations in the treatment of 1,039 cases of acute coryza, 262 cases of subacute or chronic colds, 114 cases of influenza and 53 cases of acute pharyngitis. Of the drugs studied only opium and certain alkaloids derived from it seem to be of value in the treatment of acute coryza. Combinations of papaverine with codeine, papaverine with dilaudid, and papaverine with morphine were followed by "definite improvement" in from 74 to 78 per cent of the cases. For general use a combination of codeine and papaverine seems most desirable because of the high percentage of good results obtained with it, its low toxicity, and the absence of danger, or at least of "practical danger," of habituation to it. Morphine and dilaudid (dihydromorphinone hydrochloride) alone were followed by definite

improvement in nearly as large a proportion of cases (73 and 72 per cent, respectively,) but each was distinctly more toxic alone than when combined with papaverine. Codeine, papaverine, powdered opium, and powder of ipecac and opium were followed by definite improvement in from 56 to 61 per cent of cases. The toxicity of these drugs is in the following order: codeine, powdered opium, powder of ipecac and opium and papaverine, with codeine practically as toxic as morphine. Powder of ipecac and opium, although of value in the treatment of acute colds, is no more beneficial than the same amount of powdered opium without the ipecac. Sodium bicarbonate, acetylsalicylic acid and a combination of acetylsalicylic acid-acetphenetidin-caffeine give little if any better results in the treatment of acute coryza than the lactose tablet used as a control, each being followed by definite improvement in from 35 to 42 per cent of cases. A computation, based on incomplete reports of time lost from their usual activities by patients who received the various medications suggests that it may be possible with the codeine-papaverine or dilaud-papaverine combinations to reduce materially the amount of time lost as a result of acute colds. None of the medications studied seem to be of benefit in subacute or chronic colds. Morphine was tried in influenza but was of no value. The number of cases of pharyngitis treated were too few to justify conclusions, but none of the drugs seemed of value.

INCIDENCE AND PREVENTION OF INCISIONAL HERNIAS

Henry W. Cave, New York (Journal A. M. A., Dec. 23, 1933), states that over an eleven-year period at the Roosevelt Hospital (1922 to 1932, inclusive,) there were 1,928 hernias operated on. Of these, 120 were incisional hernias, an incidence of 6.02 per cent. An analysis of the 120 postoperative hernias showed that the great majority were in patients beyond the thirty-fifth year. Over 60 per cent of the hernias developed within two months following the original operation. In the right upper rectus incisions retraction of the muscle outward resulted in more incisional hernias than occurred in the muscle-splitting procedures. In the intermuscular incision group thirty-six incisional hernias followed operation for acute appendicitis in which the peritoneum was drained. In a follow-up group, 444 patients operated on for acute appendicitis through the McBurney incision the peritoneal cavity was drained in 162 and not drained in 282. Of the 162 patients in whom the wounds were drained, twenty-one developed definite postoperative incisional hernias, giving an approximate incidence of 12.9 per cent in this group. The author does not agree with Garlock's contention that there are fewer postoperative hernias following suture alone of the peritoneum in the drained McBurney wounds. For the prevention of incisional hernia the author cites the following measures: 1. Drainage of the peritoneal cavity is employed less frequently by competent abdominal surgeons. Cholecystectomy wounds are closed tightly. When indicated one should employ stab wound drainage through the right flank. The drains are left in the wounds for a minimum period of time. Cigaret drains are preferable. 2. Suture of the peritoneum and transversalis fascia in the upper third of the abdomen is the most important step in the closure of any wound. In the lower third of the abdomen imbrication should be done with running sutures of live or dead (ox) fascia. 3. When possible all wounds are sutured by layers. Excessive tension should be avoided. 4. Fascial repair should be done in every case of recurrent incisional hernia. 5. Patients suffering from systemic disease should undergo careful preoperative rehabilitation. 6. The use of silk is preferred throughout in the closure of clean wounds.

IMPORTANCE OF THE SIZE OF STOMACH AND STOMA IN GASTRO-ENTEROSTOMIES

While Edward L. Jenkinson, Chicago (Journal A. M. A., Feb. 3, 1934), feels that the stoma should be large enough in every case to insure proper drainage, he believes that there is a limit to the size of the opening. No doubt radiologists have seen openings that have proved to be too large. In this type of case the food passes through the small intestine too rapidly, and diarrhea and abdominal distress follow. Another condition that is occasionally seen if the pylorus is open and the stoma is too large, is the vicious circle that develops; the food passes through the pylorus and again into the stomach through the stoma.

CALCIUM AND PHOSPHORUS STUDIES: IX. IMPORTANCE OF LOW DIETARY PHOSPHORUS IN TREATMENT OF PARATHYROID TETANY

David H. Shelling and Morton J. Goodman, Baltimore (Journal A. M. A., March 3, 1934), treated two patients with parathyroid tetany with low phosphorus diets. Studies were made of the effect of calcium, magnesium, parathyroid extract and vitamin D on the concentration of calcium and inorganic phosphorus in the serum and on the excretion of these substances in the urine. There are certain theoretical and practical advantages of the low phosphorus diet. The low phosphorus diet is also recommended in cases of renal rickets and nephritis with phosphorus retention. The low phosphorus diet may be used after thyroidectomies to prevent transient or permanent tetany, in renal rickets and in nephritis with phosphorus retention. The use of high calcium diets for the treatment of nephritis with phosphorus retention was previously suggested by Briggs.

BRONCHIAL ASTHMA AS A COMPLICATION OF PREGNANCY

Bradford Green, Philadelphia (Journal A. M. A., Feb. 3, 1934), submits two histories of patients with bronchial asthma during pregnancy, and states that in a patient with true bronchial asthma of anaphylactic origin, the attacks are markedly exacerbated by pregnancy and the outlook can become alarming. In the type of bronchial asthma which is directly related to the sexual cycle, the attacks may appear with each menstrual period, be absent during pregnancy and lactation, and then recur with the reestablishment of the menses. On the other hand, attacks may occur only during pregnancy or even only during pregnancy with one sex and not with the other. The attacks are occasionally associated with a mild toxemia and are relieved when the toxemia is cleared up under conservative treatment. Treatment consists of combating the asthma and disregarding the pregnancy. The termination of pregnancy at best assures only the pregestational state. When the attacks are not accompanied by toxemia but are due specifically to pregnancy, therapeutic abortion might be warranted in extreme cases. Attacks of bronchial asthma are a decided menace to the welfare of the fetus.

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Latimer	E. L. Evins, Wilburton	E. B. Hamilton, Wilburton
LeFlore	Harold Hardy, Poteau	W. M. Duff, Braden
Lincoln	J. W. Sosbee, Stroud	C. W. Robertson, Chandler
Logan	J. Leslie LeHew, Guthrie	R. F. Ringrose, Guthrie
Marshall	P. F. Robinson, Madill	J. H. Veazey, Madill
Mayes	L. C. White Adair	W. J. Whitaker, Pryor
McClain	B. W. Slover, Blanchard	R. L. Royster, Purcell
McCurtain	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow
McIntosh		Wm. A. Tolleson, Eufaula
Murray		H. C. Bailey, Sulphur
Muskogee	Chas. E. White, Muskogee	S. D. Neely, Muskogee
Noble	J. W. Francis, Perry	A. M. Evans, Perry
Nowata	J. P. Sudderth, Nowata	H. M. Prentiss, Nowata
Okfuskee		C. M. Bloss, Okemah
Oklahoma	Walter W. Wells, Okla. City	Bert F. Keltz, Okla. City
Okmulgee	J. G. Edwards, Okmulgee	M. B. Glismann, Okmulgee
Osage	C. K. Logan, Hominy	M. E. Rust, Pawhuska
Ottawa	General Pinnell, Miami	J. W. Craig, Miami
Pawnee		
Payne		L. A. Cleverdon, Cushing
Pittsburg	E. H. Shuller, McAlester	L. C. Kuyrkendall, McAlester
Pontotoc	M. L. Lewis, Ada	Hervey A. Foerster, Ada
Pottawatomie	R. M. Anderson Shawnee	H. G. Campbell, Shawnee
Pushmataha	H. C. Johnson, Antlers	B. M. Huckabay, Antlers
Rogers	W. S. Mason, Claremore	W. A. Howard, Chelsea
Seminole	A. B. Stephens, Seminole	Dwight B. Shaw, Seminole
Stephens	C. P. Chumley, Duncan	D. Long, Duncan
Texas	Wm. J. Risen, Hooker	R. B. Hayes, Guymon
Tillman		
Tulsa	Ned R. Smith, Tulsa	C. F. Simpson, Tulsa
Wagoner	S. R. Bates, Wagoner	John D. Leonard, Wagoner
Washington	E. E. Beechwood, Bartlesville	J. V. Athey, Bartlesville
Washita	C. B. Sullivan, Colony	E. K. Copeland, Cordell
Woods	W. E. Simon, Alva	O. E. Templin, Alva
Woodward	H. L. Johnson, Supply	C. W. Tedrowe, Woodward

NOTE—Corrections and additions to the above list will be cheerfully accepted.